

# Antiquity

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## Editorial Notes

THIS is the 100th number of ANTIQUITY. Twenty-five years is a respectable age for a journal that lives by its circulation, particularly when those years included a great war and its aftermath of rising costs. We do not propose to weary our readers with paeans of self-praise ; but the occasion did seem to call for comment, and it will be found in the article which follows immediately after these notes. Once and for all we thank our subscribers whose support makes publication possible, and we assure them that we shall do our best, in the future as in the past, to maintain the standard at which we aim.



We should like to have marked the event in some special way, but nowadays such luxuries as special numbers are beyond our reach, and we can only hope that the contents of this one may be deemed worthy of the occasion. Amongst them is an article by the late Sir Alfred Clapham, written just before his last illness, which will be read with interest, we feel sure, both by those (including ourselves) who agree with his views and also by those with whom he was in friendly controversy.



The present year is a memorable one for the Editor for several reasons, chiefly because he has received the highest honour which can be paid to one of his profession—a Festschrift. This consists of a volume of essays presented to him by his colleagues and published by one of them under the title 'Aspects of Archaeology'. To all those who have contributed to this volume, whether as writers, subscribers, publisher or editor, he wishes to convey his heartfelt thanks, combined (in the case of the two last) with a sympathetic understanding of their difficult and laborious task. The outcome is a beautiful book which is also a substantial addition to archaeological literature. The somewhat delicate task of reviewing it for ANTIQUITY is in safe hands.



Most reluctantly we are forced to raise the annual subscription to 30 shillings. This change has effect from now onwards, and covers the four numbers of 1952. It is the first time since the foundation of ANTIQUITY in 1927 that the price has been raised, and we should not have done so now had not a recent sudden rise in our printing-costs made it necessary. It is particularly galling to have to do so now, and announce it in our 100th

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number. So long as this rise in the cost of living continues we can hope for no more than to hold our own, and that we shall do if (as we feel confident) our readers stand by us for a few more numbers. ANTIQUITY has weathered worse storms than this, and why? Because it is not only a business undertaking but also run by human beings, not machines or bureaucrats or pedants. May we add one last word on a painful subject? Prompt payment of the annual subscription (now 30 shillings) for 1952 would be particularly welcome this year, and should be sent, with the form inserted in this number, to Mr H. W. Edwards, Ashmore Green, Newbury, Berks., England. (Please note slight alteration of address). And so to all our readers a Merry Xmas and a Happy New Year.



These Notes are shorter than usual this quarter for various reasons. One of them is that the Editor is going on an expedition to the Sudan, and in anticipation of a prolonged absence there he has had to prepare both this and the next (March) number in advance, before leaving. While away he will be out of reach of correspondence which will be dealt with, so far as possible, by his colleague, Mr H. W. Edwards. We would call attention to a slight alteration in the address; all matters concerning publication (including all subscriptions) should be sent to MR EDWARDS, ASHMORE GREEN, NEWBURY, BERKS., ENGLAND. (The old address at The Wharf is now obsolete).



# A Quarter Century of Antiquity

by JACQUETTA HAWKES

**I** WILL give it ten years'. There must have been many people who would have felt that in allowing a decade for the life-span of the new magazine, *ANTIQUITY*, Mr Reginald Smith was showing less than his usual caution. Yet the 'realists' and pessimists have been confounded: *ANTIQUITY* has reached its quarter century, and that in spite of a world depression and a world war, catastrophes hardly to have been foreseen in 1927.

Mr Crawford has written his Editorial Notes quarterly for every one of the twenty-five years except those of the war period (in one eccentric number they are called *Varia*); in them he has often expressed satisfaction at the prosperity of the paper and has attributed it to the soundness of its policy. This is true enough in a way, but would not all readers agree that even more than to the policy, the success of *ANTIQUITY* has been due to the personality of the policy maker—that is to say to Mr Crawford himself? Rarely can a paper with a specialized subject have been so strongly marked by a single personality. The Notes are short and not always substantial, yet they have the force to reach out over the entire paper, colouring and informing it.

Readers may like to smile to themselves over the righteous indignation that bursts from so many of these editorials, the severity shown to almost everybody from the State, Dominion and Colonial Governments, Universities and Museums, to tardy reviewers and careless proof-correctors. There are few indeed who have not failed in their duty towards archaeology. Again, readers may shake their heads tolerantly over the confident 19th-century rationalism still reigning unchallenged in *ANTIQUITY*—and, indeed, underlying much of the indignation. It is so infuriating that men are not perfectly rational. Yet these feelings do no more than tickle the body of one's admiration for the sustained force and character of these comments uttered to us through the years.

It is fortunate indeed to have an editor who can turn an ironical phrase such as 'the coniferous activities of the Woods and Forests Department', who can get away with witticisms like the suggestion that Stonehenge should be guarded against hooligans by 'Alsations who have had their licences endorsed', but who is also capable of an unselfconscious eloquence rare in our meiotic age. In December 1939 when it had to be decided whether to struggle on with the paper or bring it to an end, Mr Crawford spoke of the need to try to maintain civilized values through the war, and concluded: 'It seems to us right that *ANTIQUITY* should play its part in this effort so that when Europe breathes freely once more we may continue, with unabated strength, to represent what we consider an essential contribution to Learning and Progress'. These were unabashedly brave, high-sounding words—and their promise was kept.

The origin and early history of the Magazine were described in 1936 when, in spite of Mr Smith, it had flourished for a decade. At that time Mr Crawford told us how the idea of a paper to broadcast the brilliant achievements of archaeology took shape in his mind, and how he was lucky enough to find just the collaborator he needed in Mr Roland Austin. It was Mr Austin who gave *ANTIQUITY* its name. The advance circular received sufficiently encouraging response to enable the first number to be launched in March 1927. What was boldest in the structure of the enterprise was the omission of a



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publisher, an arrangement allowing a direct contact between editors and readers and so contributing to the alertness and sensitivity of the direction. It continued unchanged until Mr Austin's retirement in 1948, when Mr Crawford became the sole editor and Mr Edwards his partner and publisher. The absence of a publisher has also demanded a close relationship between editor and printer. Thanks to the faithful collaboration of Mr Austin and Messrs Bellows and their refusal to allow normal human weakness, ANTIQUITY has appeared with extraordinary regularity on its appointed day.

The first editorial of them all defines the scope and purpose: 'ANTIQUITY will attempt to summarize and criticize the work of those who are recreating the past . . . our field is the Earth, our range in time a million years or so, our subject the human race'. Although it proved that ANTIQUITY was to carry more original articles than had been foreseen in this programme for summary and criticism, the broad approach to human history has been maintained. An analysis of the subject matter of published articles (not including the Notes) up to the end of last year gives these figures: Prehistory of the British Isles 67, overseas 80; Roman Britain 27, classical Greece and Rome overseas 30; Dark Ages and onwards in the British Isles 75, overseas 30; Ancient Civilizations throughout the world 91; Anthropology (including physical anthropology) and Folk Culture 48; Theory and Techniques of History and Archaeology 26; Agriculture, Domestic and other Food Animals 16. Finally, in a miscellaneous category of 67, topics range from the most profound to *The Unicorn* and *More About the Unicorn*. These totals show how justly the balance has been kept between the many different interests of readers and contributors.

In navigating this vast ocean of interests, ANTIQUITY has always been guided by Mr Crawford's clear appreciation both of the fundamental importance and the difficulty of the successful interpretation of the work of specialists. While he has been determined that he would never produce a 'picture book for the brainless', he has published a characteristically vigorous attack on those who speak of 'mere popularization', for he sees that the accumulation of detailed knowledge with its esoteric jargon can hardly be justified unless what is truly significant for the understanding of human history is led into the main streams of our culture. His skill in steering between over-simplification and over-specialization has enabled the Magazine to succeed admirably in its rôle as go-between for experts and public.

It is a pleasant occupation to stray through the volumes of this quarter century with an eye open for various kinds of quarry. For example, one can watch for the first appearance of the names of young men who are now among the leaders of the subject: Richmond, Hawkes, Clark and Piggott make their entrances. Meanwhile those already firmly established in 1927 can be kept in view as they gallop towards their knighthoods, Sir Leonard Woolley and Sir Cyril Fox being among the first home. An early appearance of the present Director of the British Museum is as Mr T. F. Kendrick.

Then one looks out for the articles which have become classics; there is Mr de Navarro on Massilia, my husband on Hill-forts, Mr Kendrick on Hanging Bowls, Dr Clark's *Dual Nature* and many others. One is delighted, too, by the splendour of the number devoted exclusively to Sutton Hoo. Better sport still is to notice the first slight mention of sites destined for fame—Little Woodbury and the Arminghall circle when first revealed by air photography, the hasty paragraph announcing the Sutton Hoo treasure, the foretaste, in 1942, of the painted cave of Lascaux (consistently disguised as Lescaux).

Perhaps the best reminiscences of all are provided by the great controversies, for warmth is warming, and it is always satisfactory to know that at least one expert is wrong.



## A QUARTER CENTURY OF ANTIQUITY

In the first number a coat was trailed with the question of the orientation of prehistoric monuments, but this was a nice quiet talk over afternoon tea when compared with the combats between Dr Wheeler and Mr Myres over the state of Saxon London and over Verulamium. There followed the discussion between Mr Hardie and Mr Casson on *Homer and the Odyssey* and the trial of strength between those who did and did not believe in water clocks and currency bars. But it was *l'affaire Glozel* which gave ANTIQUITY its greatest scoop. It seems providential that having in his first issue promised his readers to expose all mares-nests, in his second Mr Crawford was able to publish the earliest condemnation of the Glozel forgeries, a publication made possible by his intuition and energy in travelling to France himself to inspect the site. In later numbers this pathetic farce was pursued through all its scenes and despatched with an exultant *coup de grâce*.

When one turns to wider issues, particularly to the progress of archaeology as revealed in these thousands of pages, the result is interesting but not altogether reassuring. There may perhaps be some slight weakening in the forces of ANTIQUITY itself of recent years, caused by wartime strains, the unavoidable reduction in size and in the number of illustrations, and all the oppressive difficulties of present-day publishing. Yet this is certainly not enough to account for the impression that there has been a decline since the high old times of the late twenties and thirties. When ANTIQUITY was born Sir John Marshall was revealing a new civilization in the Indus valley, the Palace of Minos was in course of publication, there was Kish, and the excavations at Ur, so well reported and so faithfully supported in ANTIQUITY, were soon to produce their astonishing results. Air photography was just realizing the strength of its wings. In the second volume an editorial was able to announce, very much as a matter of course, that among British excavations in progress during 1928 had been those at Creswell Crags, Windmill Hill, Woodhenge, Meare, Lydney, Caerleon, Richborough and Skara Brae; and in the third volume has a fine journalistic opening 'Two important events have taken place since our last number appeared: Stonehenge has been saved; and, under the Royal Tombs of Ur, Mr Leonard Woolley has found The Flood'.

To read this catalogue in 1951 is a startling experience; it would be idiocy not to recognize that archaeology has suffered from the pressure of the times, yet one tends to forget the amazing richness of that early heyday. It is as well to be reminded that although our work is now more coherently directed than it used to be, it is sadly diminished.

At the start of his enterprise, when referring to this abundance of archaeological activity between the wars, Mr Crawford asked 'What is the end of it all? What new idea is to emerge from all the vast accumulations of facts and give them coherence? Has it already happened?' Those questions are still open and can have no final answer, but every one would agree that this Magazine has always played a strenuous part in developing and illuminating them. It is greatly to be hoped that it will long continue to do so: it only remains to wish ANTIQUITY many happy returns of the day.

# The Development of Native Homesteads in North Wales

by W. E. GRIFFITHS

ALL those interested in Welsh field antiquities, and the light they throw on the life of ancient societies, must be familiar with the round stone huts of North Wales. They represent the dwelling places of a bygone race of men and are not to be confused with the larger stone rings of presumably religious significance, cairn circles of sepulchral character and other structures which are also scattered over the North Welsh uplands; while in part perhaps contemporary with some of the earlier huts, these lack the distinguishing characteristic of the latter, viz., their use, proved beyond any reasonable doubt, as houses or dwelling places for man or beast. The huts and their associated field systems are found in profusion in the north-west of the area, i.e., Anglesey, Caernarvonshire, and Merionethshire west of the Rhinog massif and Cader Idris; in Denbighshire they are rare and in Flintshire, eastern Merioneth and Montgomeryshire almost entirely absent.

The present essay is an attempt to summarise our knowledge of this complicated subject and to introduce some reasonable conjectures which must not however be regarded as proven certainties.\* Research into the problems surrounding the hut-groups, by means of excavation and field survey, proceeds continuously and is continuously supplementing our knowledge and forcing us to modify our views. In five years' time the present paper will be out of date, and rightly so. Nevertheless there are moments when it is necessary to take stock of the position, to attempt a summary and synthesis, if we are to preserve in our minds the balance between past achievements and future promise. I propose therefore to examine briefly the several varieties of hut-group in north-west Wales, and the ancient field systems with which they are connected, to enquire whether they can be fitted into a chronological scheme, and to deduce some information about the cultural connections of the peoples who inhabited them. I shall not attempt to extend my summary to the rectangular buildings and associated fields of presumably medieval date—the various forms of 'long-house', 'platform house', *hafod*, etc.—which are likewise plentifully represented in North Wales but would unduly enlarge the scope of the present essay.

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\* Bibliographical Note. This being an essay I shall not weary the reader with footnotes. A few notes of a bibliographical character may not however be out of place. The starting point must undoubtedly be Hemp and Gresham's paper on 'Hut-Circles in North-West Wales' in *ANTIQUITY*, 1944, p. 183. The Anglesey material is fully published, with references, in the *Anglesey Inventory* of the Royal Commission on Ancient Monuments in Wales and Monmouthshire; the Merionethshire huts are less adequately published in the Commission's Inventory for that county. Publication of many of the early groups of types A1-2 is forthcoming in *Arch. Camb.* For Rhostryfan see *Arch. Camb.*, 1922, p. 335; 1923, pp. 87, 291; for Caerau, *Ant. Journ.*, 1936, p. 295; for Llwyn-du Bach, *Arch. Camb.*, 1949, p. 173.

Braich y Cornel and Cae'r-mynydd are still unpublished. For the decorated querns and the question of Irish connections, see the forthcoming vol. of *Ulster Journ. Arch.*

The illustrations to this paper are published by kind permission of the Royal Commission on Ancient Monuments in Wales and Monmouthshire.



## THE DEVELOPMENT OF NATIVE HOMESTEADS IN NORTH WALES

The existence in north-west Wales of stone huts, usually in groups though sometimes found singly, normally circular in plan but often including rectangular buildings and other rectilinear elements, has long been known. Several have been excavated though the number thus examined forms a very small percentage, and attempts at synthesis have been almost entirely lacking until recent years. The excavated examples, in the cases where datable evidence is recorded, have almost all proved to belong to the period of the Roman occupation. The range of types examined by this means is however extremely narrow, and even a cursory field study leads one to the conviction that this great profusion of ancient dwellings can hardly be contemporary or the work of a single cultural unit. I shall therefore describe a number of types which can, according to the arguments put forward—not always of equal force, be it admitted—be arranged in a rough chronological order. But I would ask readers to bear in mind that, firstly, the types are not always as clear-cut as their description might suggest, and transitional or anomalous examples are not infrequently found; secondly, the list of types can hardly be regarded as exhaustive and future study will undoubtedly extend as well as clarify it; and thirdly, the chronological and cultural implications discussed are my own views and are not universally accepted among field workers.

Apart from pre-war excavation at individual sites, the most notable field work of recent years has been that done by the Royal Commission on Ancient Monuments in Wales and Monmouthshire, which published the whole of the Anglesey material in 1937; and by W. J. Hemp and C. A. Gresham who published a brief but extremely valuable paper on the Caernarvonshire and Merionethshire sites in 1944. Since the War the work has been continued, mainly in Caernarvonshire, by the above Commission, by C. A. Raleigh Radford, and by the Caernarvonshire Excavation Committee under the chairmanship of Sir Ifor Williams; but post-war publication is as yet extremely scanty. The foundations of a proper study of the subject were laid by Hemp and Gresham, who distinguish two main categories of huts—the ‘enclosed’ groups which consist of several huts within an enclosing wall, and the ‘unenclosed’ groups which comprise huts scattered at random without any attempt at enclosure. In addition they draw attention to what they term ‘concentric circles’—sites consisting of two or more roughly concentric rings of walling. The paragraphs that follow represent an attempt to expand this classification and bring it into line with recent observation. For convenience of reference and as an aid to memory I have lettered the various types of hut-group, numbering any sub-divisions within a general type.

The first type I shall deal with, calling it type A, is characterised by the small size of the huts, their upland distribution, and their association with enclosures of irregular outline and usually of small size. In its simplest form, such as an example near Fronheulog on the south side of Gyrn Ddu near Llanaelhaiarn (Caerns.), it consists of a single hut about 10 feet in diameter, roughly built of piled stones, with a couple of tiny enclosures bounded by lines of ruined walling. Most examples are more developed than this, and contain several huts and a number of enclosures of quite irregular shape. The huts are invariably of small size, averaging 10 feet in diameter, and normally lie on the line of or at the junction of enclosure walls. Two sub-types may be distinguished, a smaller (A1) and a larger (A2). A1 contains perhaps eight or nine huts and the accompanying enclosed plots are almost always small; the example illustrated (FIG. 1) occurs on the northern slopes of Carnedd Dafydd near Bethesda (Caerns.); others are found in the upper part of Cwm Ffrydlas above Llanllechid (Caerns.). Type A2 may contain 15–20 huts and cover a large area; the huts frequently show signs of conscious grouping—two or three huts with their little network of enclosures separated

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by a stretch of open ground from the next little aggregation—and in addition to the small cleared plots there are frequently large semi-cleared pounds of round or oval shape.

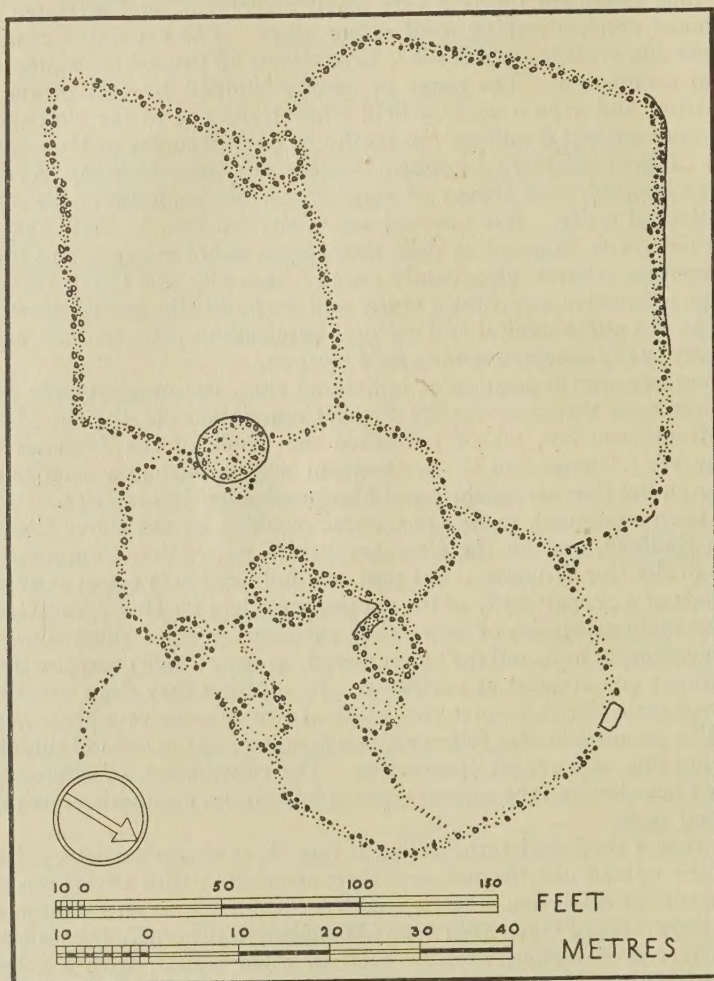


FIG. 1. HUTS AND ENCLOSURES ON MYNYDD DU, LLANLLECHID,  
CAERNARVONSHIRE

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Unlike some of the Dartmoor pounds like Grimspound these do not normally contain huts. The outstanding examples of Az are on the north side of Cwm Caseg above Bethesda (Caerns.), and the great straggling settlement of Pant y Griafolen in the remote Dulyn valley below Foel Fras (Caerns.).



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The huts are almost always poorly built of piled stones, though very occasionally some attempt at orthostatic construction has been made. The entrances where preserved usually face east or north-east on the presumed lee side of the hut. In addition to huts, cairns of piled stones are often found among the fields, usually on the line of the enclosure walls; some of these may be nothing more than the result of field clearance but the occasional appearance of a built kerb suggests a sepulchral use. The enclosures themselves are partly cleared, the larger boulders being left *in situ*, and are frequently though not very strongly lynched; they suggest cultivation with digging-stick or mattock. Hut-groups of type A have a high-level distribution, being almost always found on the gently sloping sides of mountain valleys between 1,000 and 1,500 feet above O.D.; the upper part of Pant y Griafolen reaches 1,700 feet. They are most plentiful in north and west Caernarvonshire but are also found in western Merioneth; they are absent from Anglesey (the highest point of which is only 720 feet above O.D.) though some of the scattered huts on Bodafon Mountain may be of the same general type.

No example of a type A hut-group has yet been excavated in North Wales, nor are chance finds recorded from any of the sites. They cannot therefore be securely dated. Their general appearance is extremely primitive and the apparent disappearance of the lower parts of some of the settlements under blanket peat suggests considerable antiquity. At one or two sites larger round huts with their associated field boundaries, which I believe are unlikely to be earlier than the Early Iron Age (see below), have encroached on and partly wrecked a type A settlement which must therefore be of earlier date. In plan, siting and to some extent construction the A groups bear a fairly close resemblance to some of the Dartmoor hut-groups such as Legis Tor and the Cornish sites on Bodmin Moor, and a more distant resemblance to some of the north-east Yorkshire settlements attributed by Elgee (rather unsatisfactorily) to the Middle Bronze Age. The dating of the Dartmoor sites is by no means secure and rests mainly on the curious pottery from Legis Tor; this comprises divergent elements including round-bottomed bowls with lugs and cordons, surely of Neolithic derivation; chevron-ornamented and cross-hatched sherds like the 'megalithic' pottery from Zennor Quoit; and finer comb-ornamented ware suggesting Beaker derivation. The prevailing tendency is to regard all this Dartmoor pottery as of Bronze Age date, but it must be early in the Bronze Age as I have stressed elsewhere, following Raleigh Radford, and I am still not entirely convinced that the earliest occupation at Legis Tor was not Neolithic. Attempts to date the Dartmoor sites of this type later than the Early Bronze Age involve difficulties, it being curious for example that Cornish Middle Bronze Age elements such as the characteristic handled urns and the invariable use of cord impression have not found their way into the settlements of Legis Tor type, though represented elsewhere on Dartmoor. By a rather roundabout argument we may therefore say that our North Welsh hut-groups of types A1-2 may be of Neolithic or Early Bronze Age date.

Type B seems to represent a development of type A but is not yet sufficiently isolated to be of importance and is in any case rare. It retains all the main elements of the A groups but larger huts, up to 20 feet in diameter, are now found in addition to the small ones, while the huts tend to be of better construction, exhibiting rough drystone walling or even a basal course of orthostats. The sites chosen are still in the upland valleys; the best example I know is on Moel Eilio on the south side of Cwm Eigiau (Caerns.); another and much smaller one exists in the next valley to the north (Cwm Dulyn); while the type is found as far west as Llanrug between Llanberis and Caernarvon. It could perhaps be argued that the B groups developed from type A in the Middle Bronze Age, but this is mere conjecture.

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With type C we come to the first of the basic Hemp-Gresham categories, the 'unenclosed' huts. The main variety (C1) consists of a straggling village of large huts, often 25-30 feet in diameter, well built of roughly coursed dry walling, strung out along a hill-slope and surrounded by a series of small terraced fields or (principally in Merionethshire) larger cattle enclosures bounded by walls of piled boulders. The

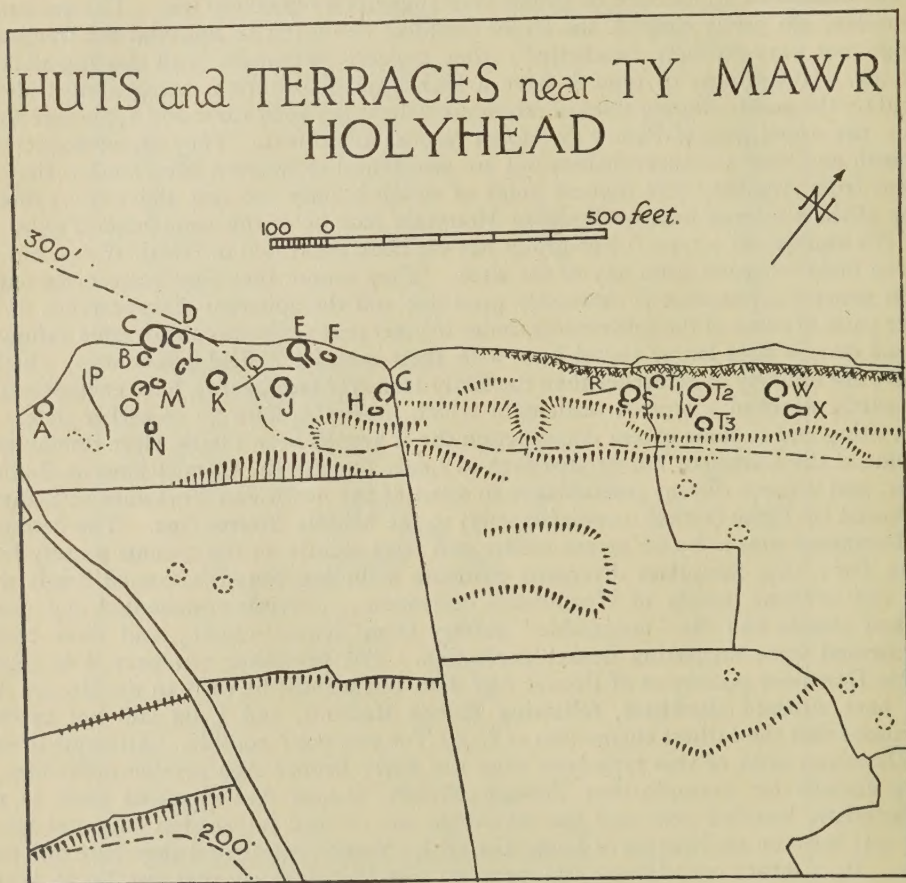


FIG. 2

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development of lynchetted fields is not usually very great. The prime instance of the C1 huts is Ty Mawr on Holyhead Mountain in Anglesey (FIG. 2), now under the care of the Ministry of Works. Excavation proved that the site was occupied throughout the middle and late Roman period; the huts often contained central fireplaces of upright slabs, hearths built against the side with a recess in the wall to act as a chimney, and clay-lined furnaces yielding copper and iron slag. Similar huts at Porth Dafarch on Holyhead Island were occupied during the 3rd and 4th centuries and possibly into the 5th century.



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Sometimes less regular hut-plans are found, including sub-rectangular shapes with rounded internal angles, but true rectangular forms are rare. The C1 groups have in general an upland distribution, though not so elevated as types A and B; they range mainly between 800 and 1,000 feet above O.D. though as Gresham has pointed out their siting depends less on altitude than on the geographical range of suitable land. They are by no means common in north Caernarvonshire but are well represented in south Caernarvonshire and Merionethshire, e.g., the Bwlch Gwernog huts lining an ancient trackway from Nantmor to Croesor; and in the Cwm Pennant and Cwm Ystradllyn area reach their greatest development.

It is in the last-named area too that type C2 may best be studied—in fact at the time of writing it seems to be confined to the Pennant and Ystradllyn valleys. Here a characteristic grouping is found—two round dry-built huts, one of which has a small rectangular annexe, nestle in the midst of a series of roughly rectangular fields, fairly regular in outline and recalling the ‘Celtic fields’ of southern Britain; elsewhere in the fields is often a large isolated round hut, perhaps the forerunner of the modern *beudy*. A group of this kind at Braich y Cornel was excavated by G. Bersu in 1950; no positive evidence of date was recovered but the very absence of Romano-British pottery (ubiquitous in North Welsh sites inhabited during the Roman period) suggests either a pre- or post-Roman date. The layout reminds one of the Late Bronze Age farms at Trewey-Foage in Cornwall, though round pot-lids of slate found during excavation appear to be of Early Iron Age type, while the neat drystone walling is paralleled at Ty Mawr (if it possesses any chronological significance at all; many chambered long cairns are masterpieces of this technique).

So to type D, the classic ‘enclosed group’ of Hemp and Gresham and at once the commonest and best understood of the North Welsh hut-groups. The outstanding features of the type are the presence of orthostatic round huts within an oval or rectilinear enclosure, the frequent inclusion of rectangular buildings, and the invariable association with a highly developed system of strongly terraced fields. Groups of this type are found throughout Anglesey, north and south Caernarvonshire and Lleyen (though absent from the east of the county except the western slopes of the lower reaches of the Conway valley), and western Merioneth—i.e., they have a western seaboard distribution. Their average height above O.D. is a good deal less than the huts already discussed and is probably about 400 feet—hence they frequently lie in modern cultivated land and have suffered extensive damage. But even in areas where the dwellings themselves have disappeared, the less easily eradicated terraces remain and bear witness to a thriving population of agriculturists who once inhabited the lower lands of north-west Wales.

I prefer to distinguish two sub-varieties of the type—D1 and D2. In D1 curvilinear elements (round huts, oval enclosures, etc.) predominate, in D2 rectilinear elements (rectangular buildings, polygonal enclosures, etc.). The normal D1 enclosure (FIG. 3) is sometimes round, more usually oval, and contains circular huts 20–25 feet in diameter set usually around the perimeter (in most cases actually touching the inner side of the enclosure wall) and hence bordering a central courtyard. In a Merionethshire variant exemplified at Moel-y-glo above Eisingrug, the huts lie actually on the line of the enclosure wall like so many beads on a string. The enclosing wall itself is usually of considerable thickness, 8 or 10 feet, but cannot have been of great height and was probably surmounted by a thorn fence to prevent cattle from damaging the roofs of the huts. These were probably conical in form, with low eaves, the rafters supported on a central post or a ring of posts concentric with the hut wall; actual evidence for these features

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has rarely been observed but was clearly demonstrated by B. H. St. J. O'Neil at Caerau (Caerns.). The huts are invariably of orthostatic construction, i.e., the wall consists of a core of earth and small stones between well-built faces of upright boulders, the latter

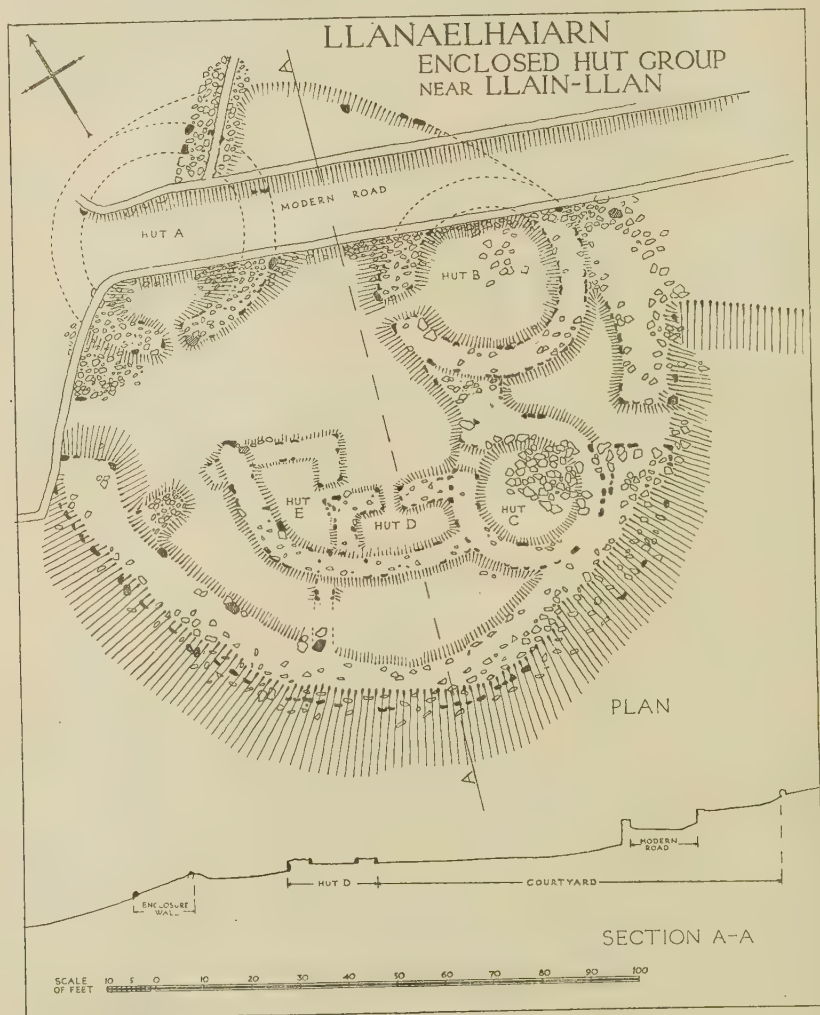


FIG. 3

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being hard igneous rocks of rounded contour in most of Caernarvonshire, impressive slabs in the limestone country of Anglesey as may be seen at the well-known site of Din Lligwy. The accompanying terraced fields are usually most irregular in shape and do not immediately recall the 'Celtic fields' of England; their layout is probably determined



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by local topography. The terraces are impressive and sometimes reach a height of 10 feet or more ; such intense development cannot be accounted for by lynchetting alone and Hemp has suggested it represents the survival of a tradition evolved originally in Mediterranean lands where its purpose is more obvious than in the humid Welsh coastlands.

D1 hut-groups are widespread and it is superfluous to cite examples. The dating evidence recovered from excavation is interesting. Caerau in Caernarvonshire (not really a typical example of D1, being rather more reminiscent of Chysauster than is usually the case), excavated by O'Neil in 1933-4, was occupied during the middle Roman period. Cae'r-mynydd near Rhiwlas in Caernarvonshire, excavated by W. E. Griffiths in 1949, yielded Romano-British pottery characteristic of the 3rd and 4th centuries—especially the latter. And an extension of the life of these farmsteads into the earlier part of the Dark Ages was proved at Pant y Saer in Anglesey, excavated by C. W. Phillips in 1932-3 ; here the pottery was all sub-Roman in character and a silver brooch was found of 6th-century type. The D1 huts are sometimes called ' courtyard houses ' with the implication that they are related to the Cornish courtyard houses best known at Chysauster. Certain differences exist which must not be overlooked : the Welsh groups are far more ruined than the Cornish and it is not possible to tell whether they incorporated the relatively sophisticated architectural detail of the latter ; the Welsh enclosures tend to be larger than the Cornish and are never arranged in hamlet fashion as at Chysauster ; and there is an entire absence of fogous or souterrains in North Wales. Hence the exact relationship of the D1 settlements to the Chysauster houses is far from clear, though they undoubtedly belong to the same general family, a widespread clan represented further afield (and at greater remove) by the aisled round-houses and brochs of west and north Scotland.

The Chysauster and Porthmeor settlements were inhabited during the Roman period but originated in the Early Iron Age ; the brochs are Roman and post-Roman in date, probably continuing to be used until the later Dark Ages ; hence the Roman and early Dark Age date of our Welsh farmsteads (with a possible origin in pre-Roman times : see below) is consistent with the family resemblance and they may constitute a link in the northward movement of western Iron Age B cultural groups (though the absence of the distinctive Glastonbury equipment, contrasting with its recurrence in the far north in all its southern essentials, sounds a note of warning). It may be that the D1 hut-group builders were cousins of the Chysauster folk rather than their descendants, and that they brought their architectural traditions to North Wales in a separate movement of colonisation from a more distant homeland—the western coasts of Europe, or even the Mediterranean (hence Hemp's terrace-builders)—but their relationship to the known Iron Age cultures of Britain is still wrapped in obscurity.

D2 I think represents the same architectural tradition in a more insular form. Even among D1 hut-groups it is rare to find a purely curvilinear plan ; the straight line is always lurking somewhere in the background. But in D2 sites the predominance of rectilinear layouts is very marked (FIG. 4). The methods of construction, siting, type of associated fields are the same but the plan is different ; the enclosure is rectangular, quadrilateral or polygonal, and the huts themselves are frequently oblong. The introduction of rectilinear elements has been thought to be due to the influence of Roman architectural practice, but this kind of hypothesis is very difficult to prove or disprove. One might well say that the elaborate system of paved drains under the hut floors at Caerau is due to the influence of Roman ideas of sanitation, but Caerau is a D1 site in which rectilinear elements are only perfunctorily represented. The impact of the

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brilliant but decaying civilisation of Rome on the crude and backward peasant cultures of Wales is still very imperfectly understood, and until more excavation has been done, not only in the native homesteads but in the *canabae* of the auxiliary forts, we must leave theories such as these to rest on their oars.

The excavated D2 groups prove to be contemporary with D1. The best known is Din Lligwy in Anglesey (FIG. 4), excavated by E. N. Baynes in 1905-7 and later ; this

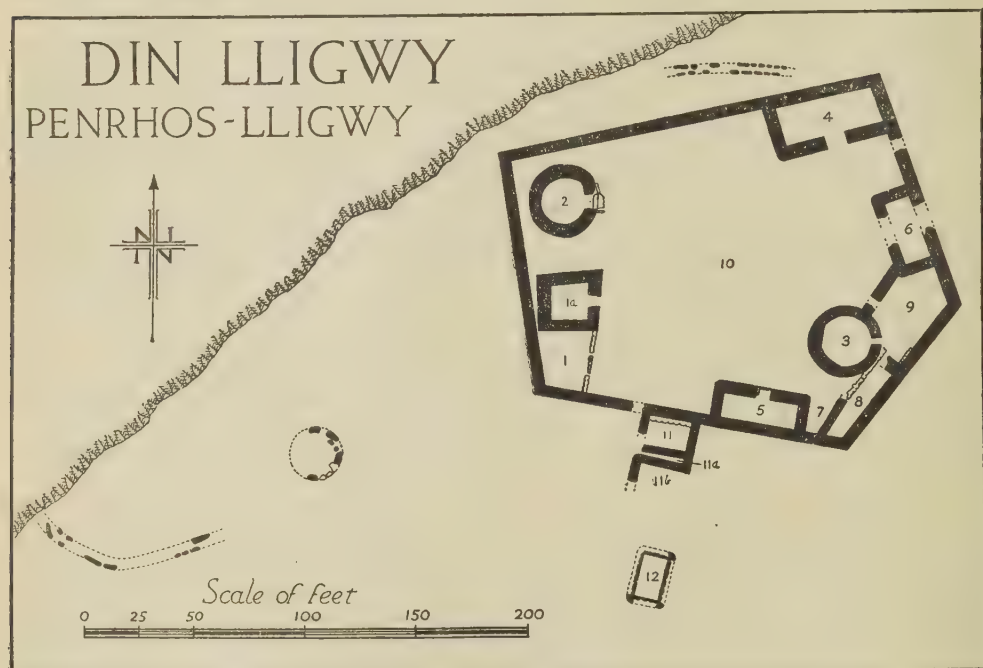


FIG. 4

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was inhabited in the 4th century and probably earlier. In Caernarvonshire, Foty-wern-las near Rhostryfan was excavated by H. Williams in 1921-2 ; the period of occupation was the 3rd and 4th centuries A.D. At both sites there was some evidence for iron and lead smelting, hence the D2 builders were not exclusively farmers. The D1 hut-groups have yielded much less evidence of metallurgical activity. But the predominant way of life at both types of site was the practice of agriculture ; the D2 hut-groups were native farmsteads which developed along the lower slopes of the Caernarvonshire and Merionethshire hills and in clearings in the Anglesey forest, never very far from Roman forts or the presumed lines of Roman roads, and the peaceful but incidental contact of their occupants with the Romans is reflected in the pottery discovered during excavation. They represent, in fact, as O'Neil has pointed out, the expansion of an agricultural population under the favourable conditions of the *pax Romana*.



## THE DEVELOPMENT OF NATIVE HOMESTEADS IN NORTH WALES

A word now about type E. On the slopes of the mountain valleys of Caernarvonshire are sometimes seen individual round huts of orthostatic construction. These are invariably of large size, sometimes 30 or even 35 feet in diameter, and lie often in remote situations at considerable altitudes, e.g., one in Cwm Caseg at 1,700 feet above O.D. Their date and relationship to the foregoing huts is entirely unknown. But it is interesting to conjecture whether they may not be the forerunners of the medieval *hafod*, the hill dwelling to which the shepherd moved with his flocks and herds in summer, retreating again to the valley in the autumn—a feature of Welsh pastoral life even as late as the 18th century (described for example by Pennant). Type E huts may in fact mean that the practice of transhumance is of very great antiquity in Wales.

Finally, the 'concentric circles' of Hemp and Gresham, which I shall call type F (FIG. 5). These appear to be confined to Caernarvonshire and Merionethshire. They consist of two or three roughly concentric rings of drystone walling, the innermost about 30 feet in diameter, the outermost sometimes reaching as much as 200 feet in diameter. It will be seen that there are really two kinds of 'concentric'—a two-ring type, and a three-ring type (we might call them F1 and F2). F1 is not universally recognised as a distinct type of settlement, and may only be a variant of the enclosed hut-group in which a circular enclosure contains a single round hut. There is some evidence in fact that F1 sites are sometimes associated with the same systems of terraced fields as the D hut-groups. But the F2 sites are undoubtedly distinctive; they are never associated with terraced fields but sometimes with large open enclosures suggesting cattle-runs, and in some cases they seem to overlie earlier terraced fields of D type (though the evidence is not in my view conclusive). The best example of an F2 site is at Maes y Caerau near Llandecwyn in Merionethshire; the only one excavated is that at Llwyn-du Bach near Penygroes in Caernarvonshire (FIG. 5), examined by Bersu and Griffiths in 1948. Here the central ring was found to be a dwelling-house, the middle ring a farmyard containing the remains of huts or shacks, and the outer ring a large cattle paddock; the outer and middle rings were connected by two parallel lines of walling forming an entrance corridor leading to the farmyard. No datable relics were recovered, a fact suggesting either a pre-Roman or a post-Roman date. The post-hole plan in the central hut was curious and showed that the roof was supported not by a ring of posts concentric with the hut wall but by a pentagonal plan of supports aligned about an axis running through the centre of the hut and the centre-line of the doorway. The nearest parallels to this plan are found in the Iron Age C horizon at Maiden Castle in Dorset, but to connect this remote North Welsh ranch with the Belgic civilisation seems a task beyond our powers. Hence most workers are inclined to regard Llwyn-du Bach as post-Roman, and Raleigh Radford has pointed out that the pastoral type of society it illustrates is that from which the economic stage depicted in the 10th-century Welsh Laws, transitional between the pastoral and agricultural stages, must have developed.

A pale gleam of light is thrown on the question of the hut-groups by the evidence from the hill-forts. The problems surrounding the Welsh hill-forts are complicated and obscure but fortunately affect our discussion only indirectly. In many Caernarvonshire and Merionethshire hill-forts stone-built circular huts exist of exactly the same size and construction as the D type huts described above. Rectilinear structures on the other hand are rare except in those hill-forts like Tre'r Ceiri which are of abnormal type. In contrast, the hill-forts of the remainder of northern and eastern Wales are devoid of round huts; one looks in vain for them at sites like the Breiddin, Ffridd Faldwyn, the Clwydian forts, Dinorben and Pen y Corddyn. This is in accord with the general scarcity of round huts in north-east Wales. It therefore seems highly probable that the

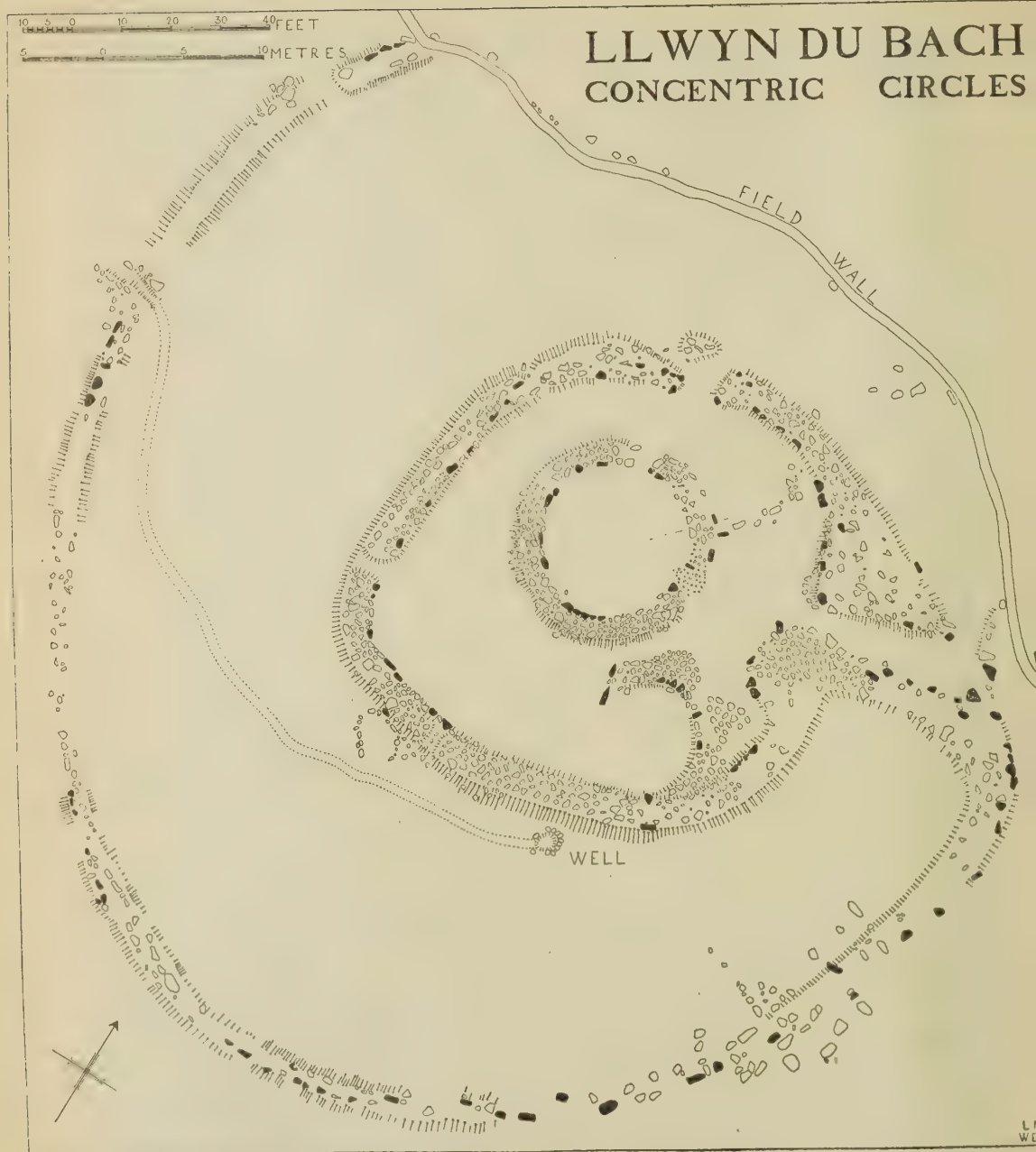


FIG. 5

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## THE DEVELOPMENT OF NATIVE HOMESTEADS IN NORTH WALES

D-type hut-group builders were the same folk who used hill-forts like Conway Mountain, Pen y Gaer (Llanbedr-y-cennin) and Garn Bodfean. Now some at least of these hill-forts are highly reminiscent of Iron Age defensive technique; some are single-ramparted and recall Iron Age A, others have multiple lines of glacis defences (Pen y Gaer being a striking example) and are undoubtedly of Iron Age B derivation. And such hill-forts of this type as have been dug (Pen y Gaer among them) have yielded no datable finds, a fact which seems to preclude occupation during the Roman period (the series of hill-forts to which I refer must not of course be confused with the vastly different Tre'r Ceiri-Braich y Ddinas type which was undoubtedly occupied (or re-occupied) in Roman times). Hence it seems that orthostatic round huts of D type were being built in the Early Iron Age, so that in spite of the exclusive evidence for Roman date presented by the results of excavation in the hut-groups themselves, we cannot exclude the possibility that they originated in pre-Roman times (an interesting corollary, though I would not wish to stress it, is that rectilinear structures of D2 type, being absent from the hill-forts, are later (i.e., Roman), and that therefore D2 is theoretically later than D1. Excavation has not yet provided any chronological distinction between the two, but note that at Din Lligwy some fragmentary structures outside the pentagonal enclosed group may be the last remains of an earlier curvilinear enclosure).

Though local names such as *coronau* are sometimes applied to the hut-circles of North Wales, they are known almost universally as *cytiau'r Gwyddelod*. The name is intriguing, not least because round huts of this kind are extremely rare in Ireland and enclosed groups of types D1 and D2 (our commonest forms) entirely absent. Yet the name is at least as old as the late 16th century since it appears in Camden in the form *Hibernicorum casulae*. This introduces one of the most difficult problems of Welsh archaeology into our discussion. Historical evidence suggests strongly that in the late Roman period Irish tribesmen were not only raiding the coasts of Wales but settling too—hence Collingwood's theory of the transference by the Roman power of Cunedda from southern Scotland to Wales c. 400, and the tradition that the dynasty he founded eventually succeeded in driving out the Irish. The distribution of early Christian inscribed stones, especially those bearing ogams or Latinised forms of Irish names, seems to point inescapably to a considerable Irish population in western Wales during the early Dark Ages. Yet precise archaeological connections between Wales and Ireland such as might be evidenced by settlement types, pottery and metal objects, are conspicuous by their absence. Moreover the relations between the supposed settlers and the Roman rulers of the land seem particularly obscure, Roman military measures at this period—the renovation of the road to south-west Wales c. 300, the 4th-century occupation of Segontium, the establishment of coastal forts of Saxon Shore type at Holyhead and Caernarvon, to say nothing of Wheeler's theory of official encouragement of native re-occupation of certain hill-forts as a defensive measure—appearing to be intended to keep out any invaders from across the Irish Sea.

I have recently been interested in a curious group of decorated rotary querns from Caernarvonshire and Anglesey which throw a shaft of light on this knotty problem. They exhibit incised designs of both a rectilinear and (more significantly) a curvilinear kind, the latter being degenerate La Tène forms of spiral and volute. They are clustered in three distinct groups, one in north Anglesey, one in south Anglesey, and one in north-west Caernarvonshire, and in all cases seem to come from our enclosed groups of types D1 or D2. Their dating is reasonably secure and falls within the period 200–600, especially the late Roman period. Their only parallels are found in north-central

Ireland, principally along the River Bann but with outliers further south, most significantly at Clonmacnois in Co. Offaly. Here then we may have evidence for the settlement of Irish tribal groups in three distinct areas in north-west Wales. But in Wales their makers clearly inhabited enclosed hut-groups. Can we reasonably expect the profusion of D groups to represent the widespread settlement of Irish folk living peaceably in farmsteads throughout the middle and late Roman period in an area patrolled and garrisoned by the Roman army? Where too are the enclosed hut-groups of their antecedents in their homeland? The alternative is to revive a long dormant theory of historians and philologists in a new and fascinating form. Lloyd, following Rhys, maintained that the distribution of early inscribed stones in western Wales indicates not the settlement of Irish invaders but the persistence of Goidelic elements in a mixed Celtic population, the earlier tribal warfare which had resulted in the penetration of Brythonic folk into eastern and central Wales having been suddenly arrested by the Roman conquest. This theory involves the belief that Goidelic speech reached Ireland via Britain, or at least was once widespread in western Britain. The philological aspect of the problem is obscured by the difficulty of discovering the exact history of the Celtic dialects in periods earlier than the 3rd century A.D., and in recent years archaeologists have tended to leave the difficulties on one side and approach the study of La Tène settlement in Britain and Ireland from another angle. But it is interesting to note that T. G. E. Powell has recently equated the Lisnacrogghera culture with the Emain and Cruachain folk, undoubted Goidelic speakers, and has derived them from the Arras La Tène tribal groups of Yorkshire and southern Scotland. If we revert to the Lloyd-Rhys hypothesis we must explain the expulsion-of-the-Irish-by-Cunedda episode as meaning the subjugation of Goidelic elements in North Wales by Brythonic conquerors from the north and the substitution of P-Celtic for Q-Celtic speech. The enclosed hut-groups are then seen to be the homes of these Goidelic folk (the decorated querns of Ireland representing strays from a Welsh homeland—perhaps refugees from the conquests of Cunedda), and this at once explains their almost complete absence from north-eastern and central Wales, areas already Brythonicised before the advent of the Romans. Hence the huts are rightly termed *cytiau'r Gwyddelod*, and if we are to look overseas for the origin of their builders, we must find a homeland of Goidelic Celts. How nice to think they may have come from Spain!



# The Modern Pottery Trade in the Aegean: further notes

by the late STANLEY CASSON

THE short article which I published in *ANTIQUITY* for December 1938 on modern types of pottery made in the Aegean and on its distribution and modes of manufacture has led to a certain interest in this subject. I made it clear that in publishing such information as I had collected my chief aim was to find out to what extent inferences from modern pottery in the Aegean, drawn from the known facts of distribution and manufacture, could be used for the purposes of making comparisons with the distribution and methods of manufacture of ancient pottery fabrics in the same area.

Since my article appeared a most valuable contribution arising out of it was made by Mr Mallowan in *ANTIQUITY* (1939, XIII, 86-7) which gave information of the utmost value about the distribution of pottery in the Syrian region, and showed that such pottery was traded on a barter system which had many ancient parallels.

It is to be hoped that others will search for additions to our knowledge on similar lines of enquiry. For a full knowledge of all aspects of modern pottery fabrics will be of inestimable service to students of ceramics in general as well as to those who specialise in the technical processes of pot-making.

At the present stage of our knowledge few generalisations are possible, and we are simply in process of collecting the bare facts. But the existence both of a more primitive mode of manufacture and distribution side by side with a more sophisticated system, and of types of pottery which are in no way superior to those of the early Bronze Age, side by side with more elaborate wares which may be compared with the wares of the Classical period, is at least a provisional conclusion which seems warranted. In both cases the mode of distribution corresponded to the two periods in question.

The purpose of this note is to add certain new facts which fill out the story. A further journey to Greece since the first article was published has made this possible.

To the fabrics listed in my first article I can now add one further of which I had previously but little knowledge—the pottery of Lesbos. This in its own way is as important as that of Samos. It resembles it only in so far as it has a distinct style of its own in shape and decoration and in the fact that it has a very large sale in a limited area. On the whole I think that the pottery of Lesbos has little sale outside the island. While that of Samos is found at Santorin, Melos and Rhodes, I was unable to find the Lesbian wares at other places. This may largely be due to the fact that I had not the good fortune to visit places which imported pottery from Lesbos, but enquiry at the island suggested that the sale is large enough there to satisfy the manufacturers, and that there is in fact no great export trade.

Pottery in Lesbos is almost entirely manufactured in one place, the village of Ayassou, inland from the port town of Mytilene. Ayassou is indeed mainly a village of pot-makers. The shops of the port town are full of the Ayassou wares. These wares can be classified as follows, and I believe that the classification is a complete one.

The commonest shape is the *stamnos* made with one or two handles and with a long lipless neck, the main characteristic of which is that it has a curious outwards bulge in the middle of the neck). The decoration is uniform and consists of slashings of dull matt white paint round the neck and down the sides, usually in three strips that break away from the base of the neck and end at the base of the vessel itself. In between these strips are usually scrolls, rendered with a generous touch of the brush and usually ending in spirals. These scrolls are usually independent of the rest of the design. They give a curiously Minoan look to the design and resemble the larger spirals and scrolls of Cycladic Melian wares of the Bronze Age.

The paint is applied with a pointed brush and often the strips down the sides are in the form of hatching—swift strokes of the brush made backwards and forwards and always ending with a sharp point where the brush begins and ends its stroke. The handles are also painted in this way, but with single brush-strokes instead of hatching.

The clay is a fine dull unglazed red.

The cost of the vases is negligible, the largest being about ten drachmas and the smaller two or three drachmas apiece (the rate of exchange being 546 drachmas to the pound sterling). This low cost has some bearing on the possible export trade, because it limits their export to sailing ships. The freightage charges by steamer would bring up the cost of the vases to an uneconomic level.

An alternative decoration of these vessels is for the paint to be a matt blue of a light tone—roughly the same blue as that of the Greek national flag. The designs are identical with those used for the white paint. A rarer type of decoration is seen in the case of *stamnoi* of the same shape painted with three or four matt colours, usually blue, white, cerise and green. The designs are the same as in the above two classes and only the colours make the latter a separate classification. I suspect that the vessels so garishly painted are made either for the tourist trade or for special gifts on fête days. In any case they are not common, and do not appear in the pottery shops of Mytilene. They are sold at Ayassou itself.

The other shapes beside the *stamnos* in this main Lesbian fabric are

- (a) the *oenochoe*, a small lipped wine jug with one handle.
- (b) Large jugs for water, with lips.

As far as I could find out, neither cups nor plates are made of this ware. It is confined almost entirely to the water jug and the wine jug.

A second main Lesbian ware is of a different type. It is glazed with a shiny transparent glaze on a white ground and has rough designs in blue and green. In many ways it resembles the Chalcidian wares which flood the Greek markets. But the Lesbian glazed wares are softer in tone and altogether more attractive and agreeable. Often they acquire a soft creamy look which is quite pleasant.

This glazed fabric is used for plates, plain jugs (probably for milk) and cups. There are also palm-pots of the Chalcidian shape and various domestic ornamental pieces. I suspect that the fabric is produced to serve as a local rival to imported Chalcidian wares.

The only imports in Mytilene that I could identify are the wares of Samos (of the types described in the first article). The plates with white glaze and rough designs in tomato red (see ANTIQUITY 1938, p. 459, pl. III, 1) were especially common.

It was significant that Chalcidian wares are apparently not imported at all into Lesbos. The island must be almost the only Greek island that does not import Chalcidian wares. I even found that as far afield as the small town of Aghios Nikolas in the gulf of Mirabello in Crete the bulk of pottery was imported Chalcidian.







a. GLAZED CUP FROM SKYROS  
height  $2\frac{1}{2}$  in., diam. of mouth 3 in.



b. POTTERY ON QUAYSIDE AT CHALCIS



## THE MODERN POTTERY TRADE IN THE AEGEAN

A further visit to the island of Skyros enabled me to gather some more information about the wares of this remarkable place. A potter's workshop and kiln near the shore at the foot of the town of Skyros, on the narrow path that leads up from the landing place, provided useful evidence. I was able to see the methods of manufacture in detail. The clay is puddled and cleansed in a courtyard nearby, and the kilns adjoin. I procured both an unbaked and a fired specimen of the standard 'beer-mug' shaped vessel which is the most characteristic shape made in the island. The clay is singularly clean and pure, and before firing is of a fine warm brown shade, like tanned leather. After firing it goes the rich red which is the characteristic Skyriot colour. The most important fact about this ware is the way in which its decoration is applied. The complicated scrolls and lines of the thin patterns which adorn all kinds of Skyriot pottery made of this red unglazed clay differ from all other decorations which I know on modern Greek pottery in their mode of application. The intricate Skyriot designs, which vary considerably, are all applied not with a brush but by means of a straw tube. A small clay bottle, with a projecting nipple, not unlike the 'feeding cup' of prehistoric Greece, is filled with the white slip used for the decoration. The hollow straw is inserted in the nipple and the white slip or paint is thus applied to the surface of the vases in the manner of an enlarged stylographic pen. The result is that the lines of decoration, whether straight or curved, are of a uniform width, and never end in points or sharp terminations as in the case of the brush-made designs of the *stamnoi* of Lesbos. This method of decoration seems worthy of study as parallels for it may be found in ancient designs. I had wrongly stated in my first article that these designs were brush made. I now know that they are not.

I am glad to be able to add a further fabric to the credit of Skyriot potters, namely a glazed pottery, used almost exclusively for plates and bowls and small cups. The clay is the usual red, and the glaze a fine white with brush-made designs in blue of a dark shade. The designs are always floral and simple and bear no relation at all to the traditional designs of the porous red wares. They resemble more the glazed wares of Lesbos, and have no particular peculiarity which marks them as Skyriot. But I found them being made in the same potter's shop as made the red porous wares.

The purpose of these glazed Skyriot wares is mainly for eating or for holding food. The very large bowls of the porous red ware with the intricate white designs are used for kneading dough, but not for eating.

The examples of Lesbos and Skyros thus suggest that the average Greek island household requires two distinct types of pottery, (*a*) the porous unglazed wares for holding water and wine, porous so that these liquids shall keep cool, and (*b*) glazed wares for food and for liquids such as coffee. It is interesting that the 'beer-mug' vessels of Skyros are used for drinking water and have no strict equivalent at Lesbos.

Among the glazed wares at Skyros I bought one remarkable small cup with one handle. The glaze was white (PLATE, a) on the outside and red inside. The red glaze had been applied first and the white afterwards. Over the white glaze was a design painted with a small brush in three colours, black, blue-green and chrome yellow. The design consisted of two yellow flowers with between them a human face in black seen from the front. Round the rim was a line in blue green. The design is childlike to the point of crudity, but it is evidently derived from the traditional embroidered textiles of the island, which are famous for being one of the few Greek embroideries which have human faces and figures rendered on them. Here is a case of a potter obtaining his design directly from textiles. This suggests many ancient parallels.

A few further facts deserve notice. At the island of Tenos I found that there is a native ware resembling the plain unglazed dark red wares of Siphnos. The proximity of

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Siphnos and its much larger output of pottery seems to have influenced the Tenian potters. Incense-burners of the Siphnian type (ANTIQUITY 1938, p. 470 and pl. IV, 2) and small jugs were common. But they were definitely of local fabric despite their close resemblance to the Siphnian, for the inhabitants knew of no Siphnian imports. The demand for incense-burners is a large one for Tenos lives to a large degree on the trade of the Greek pilgrims who come to the island for the famous annual festival of St. Mary, with its month-long ceremonies of healing. Nowhere have I seen so many religious objects, charms against the evil eye and other sacred objects for sale.

The photograph published herewith adds to our knowledge of the mode of distribution of pottery in the Aegean. It shows (PLATE, b) a ship tied up to the quay at Chalcis with its cargo of unglazed *stamnoi* laid out on the quayside. I have not as yet been able to identify the place of manufacture of the vessels, but I think they come from the islands. They may possibly be Aeginetan. Their upper parts are decorated with a white matt slip. I took this photograph at Onalkis in 1930. The Chalcidian potteries do not produce a porous ware but only glazed wares, so that the presence of this boat in the harbour of one of the main pot-producing centres of the Aegean indicates that the ship's captain is importing a type of pot for which there is a steady demand. Again we meet this necessity of the Greek householder for the use of two types of vessel—the glazed and the unglazed.

There remain many unidentified fabrics of Greek pottery and I feel that I have only touched on the fringe of the subject. But information is accumulating and much is being learned. I trust that others will follow up these investigations, so that the fullest information may be available. Comparisons with antiquity are now sufficient to show that further knowledge of these modern methods will be of great use and advantage.

*Note.*—Further information as to nomenclature in Cyprus may be given here to add to that given in the first article. The Cypriot name for the standard Greek *stamnos* is *κουζά* and the name of the maker of such pots is *κουζάρης*, plural *κουζάριδες*.

Large clay cooking-pots are mainly imported from Asia Minor to Kyrenia on the north coast. The name for this type of cooking pot is *τσούκα*. The makers of such pots are known as *τσουκαλάδες*.

The Cypriot name for bowls is *γαστρίν*, plural *γάστρια*.

*Note by Editor.*—Some of the pots described above were given by Mr Casson to the Editor, who will gladly give them to any museum that would like to have them and that is willing to collect them at Southampton or Nursling.



# Some Disputed Examples of pre-Conquest Sculpture

by the late SIR ALFRED CLAPHAM

IT is becoming more and more apparent of late years that a certain school of opinion has undertaken a complete revision of the dates formerly assigned to certain of the major sculptures up till then assigned to the pre-Conquest age. The general basis upon which this revision rests are stylistic appreciation of the sculptures themselves and comparison with continental material; it is only, as it were, by accident that factual evidence is admitted into the discussion, if indeed its intrusion is considered to be at all relevant. Furthermore the general and indeed universal tendency is drastically to post-date all these sculptures and to assign most of them to the 12th century. It is perhaps unfortunate for the new view that this later period provides an almost inexhaustible stock of closely dated sculpture, large and small and surviving *in situ*, with which the rejects from the pre-Conquest age can be compared; this stock would appear to lend little or no support for the proposed intrusion. Indeed it is doubtful if such claims would have been made had there been a corpus of photographs of Anglo-Norman sculpture comparable with that of pre-Conquest work; the study of 12th century work on the spot is a long and laborious business, but without such intimate study there can be little or no justification for assigning a work of art to a period with which one is perforce only partially acquainted. This is very germane to the matter in that not only is the material of that age extremely extensive but, more important still, the architectural setting and ordinance of the larger sculpture is generally ascertainable, and one must clearly be prepared to assign a likely position in the churches in question for any major sculpture placed within them in the 12th century.

It is not the intention of this paper to make any attempt to assess the stylistic quality of the sculptures in question, but rather to put on record the largely indisputable facts by which any judgment of their age must, as I hold, primarily be controlled. Sculptures which have been chosen providing evidence for such treatment are the following :—

- a. the Reculver cross-shaft
- b. the Romsey Rood
- c. the Langford draped Rood
- d. the Barnack Majesty, and
- e. the Daglingworth figures.

The York Virgin I have already dealt with at length in the *Archaeological Journal*, Vol. 105, p. 6.

(a) *The Reculver Cross-shaft* (PLATE I). It is on record that when the excavation of Reculver church was undertaken in 1925, it was found that the *opus signinum* pavement<sup>1</sup> of the 7th century church was laid against, and was at least co-eval with, the masonry base upon which the high cross stood throughout the middle ages, as is attested by Archbishop Winchelsea's Register (1296) and by John Leland (1540). I may perhaps claim to be, myself, a competent observer and I verified this fact during the excavations. It thus follows that at any rate a high cross stood in this position in 670. The existing remains of the Reculver cross which have come down to us are it is thought, with some reason, to be by two hands and indeed differ in treatment; but the draped standing figures are of the lower part of the shaft and 18 inches in diameter, while the uppermost

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<sup>1</sup> *Archaeologia*, LXXVII, 247.

is of 15 inches diameter and must thus have occupied a higher position if it belonged to the same shaft, which there seems little reason to doubt. The result of these observations is that, if the draped figures are to be assigned to the Carolingian age, as is averred by recent opinion, the others must presumably be of a similar or later age and no fragment at all has survived of the high cross erected in or about 670 except its masonry footing.

(b) *The Romsey Rood* (PLATE IIA). This sculpture occupies a position in the west wall of the south transept facing the cloister, and seeing that there is no evidence of such a Rood being set up *de novo* in this position in any 12th century English monastic house, there is no reason to suppose that it was designed for its present position. The date of the wall in which it is set, is, from architectural evidence, approximately 1150, and the question thus arises from whence the Rood came. The position of the pre-Conquest church at Romsey is known, from excavation,<sup>2</sup> to have been under the crossing and the eastern part of the nave and, as elsewhere, it was probably left standing until the new building operations compelled its demolition soon after 1130. It thus seems not unreasonable to suppose that the Rood was placed over the chancel arch of the Saxon church, in the same position as the missing figure (perhaps in stucco) between the angels at Bradford-on-Avon, and was brought from there and set up in the nearby cloister. The crucial evidence of the date of the Rood at Romsey is however the *Manus Dei* issuing from a cloud above the head of Christ. This point was noted and commented upon long ago by Mr Stanley Casson in the *Burlington Magazine*<sup>3</sup> but his words fell on stony ground. It can, as he pointed out, readily be established that the representation of the *Manus Dei* over the Crucifixion was a commonplace in the later pre-Conquest period. Apart from Romsey, four other examples have survived in stone, various instances in ivory and a still greater number of illuminations. This usage in pre-Conquest England is not however in dispute and the point only becomes significant if it can be established that, in this country, the practice ceased after the Conquest.

This is a piece of evidence which it is far less easy to establish; representations of the Crucifixion in post-Conquest manuscripts of the 12th century are sufficiently numerous to render it difficult to arrive at any finality, in the absence of any considerable quantity of published reproductions. Nevertheless an examination of the examples which are most readily available has not revealed any instance of the Hand of God in English 12th century illuminations, and consultation with those most erudite in such matters has not sufficed, from their personal knowledge, to fill any part of the gap. It is not disputed that the use of this symbol continued to a considerably later date in more than one continental country but this point would appear to me to be beside the mark.<sup>4</sup> I am thus inclined to claim that the onus of proof of such 12th century usage lies on the shoulders of those who desire to place an English crucifix with this symbol, in whatever medium,

<sup>2</sup> *V.C.H. Hants.*, IV, 460.

<sup>3</sup> S. Casson, 'Byzantium and Anglo-Saxon Sculpture'. *Burl. Mag.*, LXI, 232.

<sup>4</sup> In this connection it may be noted that the Crucifixion on one side of the font at Lenton, Notts, has a Hand of God above the figure, but the iconography and decoration of this font on all four of its sides is so unconnected with English idiom as to make it probable that they are copied from some foreign source. (*Rel. and Ill. Arch.*, N.S. XV (1909), 250; J. Romilly Allen, *Early Christian Symbolism*, pp. 289, 298, 308). It may be noted that the closest parallel to the Lenton Crucifixion is to be found in the rendering of the same subject in the Gerona Apocalypse, finished in 975 (W. Neuss, *Die Katalanische Bibelillustration* (1922), 63 and taf. 57), where the censuring angels, Longinus and the two thieves with attendant angel and demon with the mouth of Hell are represented. Catalan Bibles were apparently current in the Cluniac Order in the 12th century, as Dr Joan Evans informs me, and Lenton Priory was an important house of this Order.



## SOME DISPUTED EXAMPLES OF PRE-CONQUEST SCULPTURE

within that period, and thus to produce an English example within that 12th century to which they would assign the Romsey Rood.

(c) *The Langford draped Rood* (PLATE III). The draped Rood now set up on the outside face of the east wall of the south porch at Langford (Oxon) is a severe form of the draped figure which is of a not uncommon type and of which the Volto Santo at Lucca (PLATE IV) is the most celebrated example. The contrasting representations of the figure according to the so-called Syrian or Hellenistic convention has been discussed by Emile Mâle<sup>5</sup> at some length and it is furthermore quite apparent that the draped (Syrian) form was in common use in Ottonian manuscripts<sup>6</sup> of the 10th and 11th centuries. The Volto Santo at Lucca so much fills the centre of the scene that it has become customary to assume that all such draped crucifixes in the round are copies near or remote of the Lucca figure. It is further assumed, perhaps with reason, that the existing figure at Lucca is a work of the 12th century replacing a much earlier figure, and ostensible copies of it are thus placed also in the 12th century. This conclusion would seem to have been reached without a full consideration of the facts. Whether or not one accepts the story of the arrival of the Volto Santo in Lucca in 782, there is reasonably firm evidence that it existed there in 1001<sup>7</sup>, when Simeon, an Armenian monk and anchorite, paid his devotions to it; and it is also reasonably established that, as recorded in the 13th-century *Liber Albus* of the monastery, Leofstan Abbot of Bury St. Edmunds on his return from Rome, about 1049-50, caused to be made at Bury a crucifix 'according to the measure of the cross at Lucca'<sup>8</sup>. It thus becomes abundantly clear that throughout the 11th century, and before it, there was a figure at Lucca of presumably more archaic character than that at present existing, which no doubt formed the basis of the later replacement. A close examination of the various scattered examples indicates that there are certain marked differences in these representations. Thus the position of the waist-band in the figure (no. 17) in the Barcelona Museum<sup>9</sup> is far lower than that of the figure at Amiens<sup>10</sup>. Furthermore, some figures, Langford amongst them, have the sleeves widened and fallen open at the ends and not clinging closely to the wrists as in the present Lucca figure. This brings us to the statement made long ago by Charles de Remusat<sup>11</sup>: 'On appelle St. Voulte de Lucques, vulgairement et par corruption Saint Godelin, tout crucifix habillé semblable à celui-là tel que ceux qu'on voyait jadis à Saint Étienne-des-Sens, au Sepulchre à Paris'. However this may be, the question as to whether the Langford Rood is or is not a conscious copying of the original Volto Santo does not provide material evidence of its date. The church at Langford, on purely architectural evidence, was built not long before the Conquest, and has in position upon the tower a sundial supported by two standing figures in the Winchester manner; it thus appears likely that the draped Rood was prepared for this church, and may indeed have been inspired by the Rood at Bury.

<sup>5</sup> E. Mâle, *L'art religieux du xii<sup>e</sup> siècle en France*, 78-9.

<sup>6</sup> e.g. Reichnau Song of Solomon, end of 10th century, and Gospels of Abbess Uta of Niedermünster, 1002-25.

<sup>7</sup> A. Guerra, *Storia del Volto Santo di Lucca* (1881), 96, 454.

<sup>8</sup> M. R. James, 'Abbey Church of St. Edmund at Bury', *Camb. Antiq. Soc. Com.*, xxviii, 139. The possession of two copies of Abbo's Life of St. Edmund by the Chapter Library at Lucca seems to lend strong support to the statement in the *Liber Albus*.

<sup>9</sup> J. Folch y Torres, *Catálogo de la Sección de Arte Románico* (Museo de la Ciudadela, Barcelona), 66.

<sup>10</sup> See illustration in T. Perkins, *Amiens Cathedral*, 63.

<sup>11</sup> C. de Rémusat, *S. Anselme de Cantorbéry* (1853), 133.

One final point would seem to clinch the evidence of its pre-Conquest date and this is the jointing of the four stones of which it is composed. The two vertical pieces above and below the arm are rebated into the two horizontal pieces which themselves abut with a vertical joint central with the figure. This is clearly a carpentry technique applied to stone which can be paralleled elsewhere in pre-Conquest work, as for instance at Britford (Wilts.) and Ampney Crucis (Glos.). On the other hand, such technique, and this can be said with some degree of certainty, seems to be entirely unrepresented in post-Conquest Anglo-Norman work of which the number and variety is, needless to say, legion.

(d) *The Barnack Majesty* (PLATE V a). Only three points arise in relation to this figure which should affect the date assigned to it. The first is the carving of the figure in high relief cut out of the solid stone and set in a perfectly plain round recess. This technique appears also at Daglingworth and will be considered under that head. The second point is the highly unusual and remarkable setting back of the drapery on the front of the knees, producing round-headed and recessed panels. So far as I know this feature is only to be found elsewhere in England in the bronze figure of the Virgin and Child (PLATE V b) at the Museum at York<sup>12</sup> which is, I think, accepted as a pre-Conquest work. The gravamen of this evidence is that in the vast stock of 12th-century figure-sculpture it is, so far as I know, entirely absent, whereas the law of averages demands a considerable number if the treatment is a 12th-century practice. The third point is that the arch in which the figure sits is entirely unadorned, whereas a 12th century figure would certainly have had shafts and a moulded arch cut on the angles of the recess, and this could have been done without the use of a larger block of stone. It might, it is true, be argued that the architectural setting was added in front of the main block, but any such treatment renders futile the hollowing out of the stone to set the figure within it.

(e) *The Daglingworth Figures* (PLATES II b, VI). Daglingworth is a small village in a somewhat remote valley in the Cotswolds three miles north-west of Cirencester. There is no doubt as to the circumstances of the finding of the figures, the occasion being probably when the church was restored in 1845. They were found set face inwards as the ashlar stone-work of the responds of the chancel-arch. There is equally no doubt of the date of the church which has pilaster-strips and long and short work at both angles of the chancel and both south angles of the nave. The date of the chancel-arch and the rest of the original church has been determined quite clearly by the late W. H. Knowles<sup>13</sup>, no mean authority on Romanesque building. He decided without hesitation that the church was of one build including the chancel-arch, and that it did not long precede the date of Odda's chapel at Deerhurst built in 1056. It thus appears that the carvings must be anterior to the middle of the 11th century when they were used as building material in the church of that age. They can therefore not belong to the 12th century except on the almost incredible theory that they were inserted for no apparent reason in the pre-existing chancel-arch a hundred years or more after it was built. The suggestion that they were inspired by the Catalan sculptures on the west front of Ripoll implies that they date approximately from the erection of that sculptured façade which Senor Puig, the authority on Catalan Romanesque, assigns to the period 1150-75<sup>14</sup>. The advocates for a 12th-century date for the sculpture would thus have to place them in the second half of that century, an assessment which needs no further comment from me.

<sup>12</sup> M. H. Longhurst, *English Ivories* (1926), 22, fig. 8.

<sup>13</sup> 'The Development of Architecture in Gloucestershire to the close of the 12th century'. *Bris. and Glos. Arch. Soc. Trans.*, I (1928), 66.

<sup>14</sup> J. Puig y Cadafalch, *L'Arquitectura romànica a Catalunya*, III (1918) 847; *Bulletin Mon.*, LXXXIV (1925), 303.



## SOME DISPUTED EXAMPLES OF PRE-CONQUEST SCULPTURE

It should be noted that three of these figures—the Crucifixion, the Christ enthroned and the St. Peter—are all in high relief, and that the second is set in a recess cut back out of the solid stone ; furthermore the same figure has a four-strand belt with an interlaced knot in front and St. Peter has a similar belt and knot of two strands. In regard to the cutting back in the solid of one of these figures, and probably of the others also, it would be interesting to know if a single example of this technique, on a like scale, can be cited of any carving avowedly of 12th-century date ; I myself know of none. The belt with an interlaced knot falls naturally into place before the Conquest but again would be a marked archaism in the 12th century.

A few more general observations may be set down to conclude these notes ; they refer only to the last four of the items considered above. It will be apparent at the outset that in each case the sculpture is to be found in an entirely appropriate setting for a late pre-Conquest date. The Nunnery at Romsey was founded about 907 and flourished at the period in question. The Church at Langford has important remains of late pre-Conquest building including the central tower. The, presumably, late 10th-century west tower at Barnack is a well-known and entirely accepted example of its period. Finally the little church at Daglingworth has been shown to be a building of round about 1050. Furthermore, all of the figures in these places have been displaced, and the Romsey rood certainly does not belong to the wall in which it is now set.

Secondly, one must be prepared to suggest a suitable setting for these figures in a 12th-century church, if this is the date to be assigned to them. None of the greater or lesser churches of that age provide an answer to this question, and it would appear probable that, at that date, it was customary to carve the great rood in wood, and its attendant figures were the Virgin and St. John and not Longinus and Stephon who appear in the Crucifixion at Daglingworth. It would furthermore appear likely that any sculptures of a like nature and set in a wall would have been defaced, cut back and plastered over at the Reformation rather than removed bodily, and that, in consequence, 19th-century restorations would have revealed their presence.

On the other hand there can be no doubt that the Anglo-Saxons made use of the Carolingian practice of modelling figures in stucco. This is proved by the vacant place between the angels at Bradford-on-Avon and at other places where only a portion of the figure, and that the head, has been executed in stone, leaving no trace of the rest of the body ; and finally that fragments of modelled stucco were found at the Saxon level during the excavations at Glastonbury in 1928<sup>15</sup>. The climate no doubt destroyed the vast majority of these stucco works without the aid and before the time of the Tudor iconoclasts, leaving no trace of their existence. The entire neglect of the existence of this form of representation has hitherto prevented any assessment of the probable effect of stucco-modelling on the stone sculpture of the late Anglo-Saxon period.

*Note.*—For Reculver see also *ANTIQUITY*, III, 1929, 65–74 : The Earliest Churches in England, by Sir Charles Peers ; and x, 1936, 179–94 : Reculver, by R. F. Jessup. Plate III in the latter article shows another fragment of the Reculver cross, also with standing figures. It will be observed that in both cases the figures stand in small alcoves or niches and are separated from each other by small columns. Precisely the same feature occurs on the capitals of the piers of Dagobert's 7th-century church at S. Denis near Paris. Ed.

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<sup>15</sup> *Somerset Arch. & N.H. Soc. Procs.*, LXXIV, 4. Some of the conventional foliage on the capitals of the tower-arches of late pre-Conquest date at Milborne Port, Somerset, are stated by Dr Allen to be of stucco. *Ibid.*, LXXX, 28 and Plates VIII and IX.

# Corn-drying Kilns

by SIR LINDSAY SCOTT

THE kiln-drying of corn is a practice which still prevails on the farms of the Faeroes, and in recent times corn-drying kilns were to be found throughout the west from the Shetlands to Ireland and Wales. It may be useful to collect information about the types in use before their method of operation is quite forgotten, and to add some scattered data about their use in former periods as far back as that of Skara Brae.\*

Kiln-drying may be undertaken as a preliminary either to threshing or to grinding, but the former practice, that is drying in the ear, has been used in modern times only in the far north. In the Faeroes the lack of sunlight prevents barley, which is the only corn grown, from ripening fully before it is harvested in September, and it is necessary to dry the still not wholly hardened grain before threshing; the ears are pulled from the straw, kiln-dried and threshed as soon as the harvest is completed<sup>1</sup>. The same practice is reported from Norway<sup>2</sup>, and it occurs, though not widely, in Sweden, where it is regarded by Dr Erixon as an Eastern European one. From a Dark Age reference and a statement of Diodorus Siculus, both of which are quoted below, it might be inferred that it had at times been adopted in Britain, and, if that was so, it points to climatic conditions worse than those prevailing now. The custom was however followed in early Roman times in Italy, where *far*, a thick-husked variety of emmer, was roasted in the ear in the baking ovens; a feast of ovens, the *Fornacalia*, celebrated the event. Pliny says that this traditional procedure was not followed with other grains, such as were commonly cultivated in his time, and he explains it, alternatively, as due to the difficulty of threshing *far*, and as due to a dictum of Numa that, unless parched, *far* was unfit for religious use<sup>3</sup>. Save in such special cases as this, we may regard the kiln-drying of corn before threshing as a practice belonging to the regions on the northern margin of corn-cultivation.

The normal purpose of kiln-drying has been to facilitate the milling of corn which, owing to bad harvest weather, has been brought in damp from the fields, and the distribution of the practice will be found to correspond with the area in which bad harvest weather is to be feared; in Britain its furthest extension to the southeast seems to be Northamptonshire<sup>4</sup>. Drying for this purpose need not be undertaken until the grain

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\* In collecting the scattered material used in this paper I have received the most generous help of Mr Basil Megaw (Manx Museum), Mr Robert Stevenson (National Museum of Antiquities of Scotland), Mr A. T. Lucas (National Museum of Ireland), Mr F. G. Payne (Welsh Folk Museum), Dr Sigurd Erixon (Stockholm Folk Museum) and Mr John Stewart of Whalsey. All these have given me unpublished, or obscurely published, information and Mr Stevenson, Mr Lucas and Mr Stewart have further allowed me to reproduce unpublished plans.

<sup>1</sup> K. Williamson, *The Atlantic Islands*, 1948, 206.

<sup>2</sup> A. Roussel, *Norse Building Customs in the Scottish Isles*, 1934, 61.

<sup>3</sup> Ovid, *Fasti*, II, 519 and VI, 313, and the notes of Sir James Frazer quoting Festus; Pliny, *Natural History*, XVIII, x, xxiii and lxxii.

<sup>4</sup> Relying on the distribution of technical terms belonging to the kiln-drying of corn as recorded in Wright's *English Dialect Dictionary*, s.v. Kiln.



PLATE I



RECVLVER CROSS-FRAGMENT

PLATE II



a. THE ROMSEY ROOD



b. DAGLINGWORTH: ST. PETER



PLATE III



THE LANGFORD DRAPED ROOD

PLATE IV



LUCCA: THE VOLTO SANTO

PLATE V



*a.* BARNACK MAJESTY



*b.* BRONZE FIGURE OF VIRGIN AND  
CHILD, YORK



PLATE VI



b. DAGLINGWORTH: CHRIST ENTHRONED



a. DAGLINGWORTH: CRUCIFIXION



PLATFORM AND PIT OF KILN AT FIG. 5 LOOKING ALONG TOP OF FLUE  
TO ENTRANCE OF BARN (see p. 202)

*Ph. R. B. K. Stevenson*



*a.* CARLWARK: THE MAIN WALL ACROSS THE PROMONTORY FROM THE NORTHWEST  
(see p. 210)



*b.* CARLWARK: THE ENTRANCE FROM THE OUTSIDE  
(see p. 210)



is to be ground, and, when this was done in hand-querns, it took place throughout the year as flour was needed for the farmhouse. Meanwhile the corn could be stored in the manner most favourable to its preservation, that is in ricks. It was only with the introduction of power-driven mills, which included a kiln as part of their equipment, that the whole crop of a farm would be threshed at once and carted to the mill for drying and grinding at a date during the winter pre-arranged with the miller<sup>5</sup>.

Generally therefore the kilns here described belonged to a farm, or township, which threshed and dried its corn in small quantities as a preliminary to milling in its own hand-querns. They represent a standard of development intermediate between the power-driven mill and such more primitive practices as the early Roman one already mentioned of parching in a bread oven; or those recorded for Shetland of drying in a kettle over the fire or by rolling hot stones among the grain<sup>6</sup>; or the much-criticised Highland practice of parching in the burning straw. This last consisted in taking a handful of corn, setting fire to it and beating out the grain at the moment when the husk was burnt off. It was the resort of an improvident hostess; since a caller must not leave without food, she would thresh her grain so, put it through the quern, and bake her scones, while she held the guest in conversation. Such scones were the 'graddaned bread, that is, meal burnt with the straw in place of being threshed and kiln-dried', mentioned by Boswell, and valued for its burnt taste. Johnson heavily castigated the practice as wasting straw and it has been inferred that it was the normal one, forgetting that Johnson was travelling to find the primitive and, not unnaturally, emphasises any primitive practice he chanced to observe<sup>7</sup>. In Ireland in the 17th century, however, burning in the straw (apparently whilst standing in the fields) was sufficiently prevalent to make it worth while passing an Act in 1634 to prohibit it<sup>8</sup>.

The kiln still in use in farms in the Faeroes occupies the end of a barn (FIG. 1)<sup>9</sup>. About a third of the floor space is divided off by a cross-wall three or four feet high with a gap for the fire; sometimes there are two spaced gaps and two fires. Poles are laid horizontally from the top of the cross-wall to a beam secured in the end-wall of the barn,

<sup>5</sup> *The Farmer's Weekly*, Dec. 22, 1950, 34. Current practice in the big mills is to dry English wheat before milling if the season is wet, since otherwise the requisite degree of extraction is not achieved; imported corn, and English barley and oats, are not kiln-dried (information from Messrs Spillers, Ltd.). Corn cut by a combine-harvester is kiln-dried, since it is threshed as it is cut and deprived of the normal opportunity to dry in the straw in the field.

<sup>6</sup> A. Mitchell, *The Past in the Present*, 1880, 46.

<sup>7</sup> S. Johnson, *Journey to the Western Islands of Scotland*, s.v. *Ostig in Sky*; J. Boswell, *Tour to the Hebrides*, published from the original manuscript, 1936, 134, s.v. 9 September, 1773. Boswell records arguments in favour of the practice. He also records (p. 138) a farmhouse which had 'a little house-kiln for drying corn . . . a little at a time . . . instead of having one' (a kiln) 'to attend in an outhouse'. 'It was about the size of a hog's head; was made of wattles plastered with clay very firmly both on the outside and the inside'. The most reliable account of graddaning is in Martin Martin, *A Description of the Western Islands of Scotland*, 2nd edn., 1716, 204. At that time (c. 1700) it was 'yet us'd in several Isles', but was 'much laid aside, since the number of their Mills encreas'd'. Pennant met the practice in Rum and records that it was prohibited in some of the islands. He notes also a practice of stripping the ears from the straw, drying them in a kiln and then setting fire to them to burn off the husk (*Second Tour in Scotland*, 1776, II, 280.)

<sup>8</sup> *Advertisements for Ireland: being a description of the State of Ireland in the reign of James I*, ed. G. O'Brien, 1923, 33.

<sup>9</sup> K. Williamson, *The Atlantic Islands*, 206.

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and on these straw is laid in tightly-packed bundles. The ears of corn, previously pulled from the straw, are spread in a layer an inch thick on the bundles of straw and a fire is made in a shallow hole in the floor in the gap in the cross-wall. A slab on edge prevents the fire from spreading inwards and the corn is continually watched, lest sparks should ignite the straw, and is periodically turned. There is no chimney or smoke-hole, since

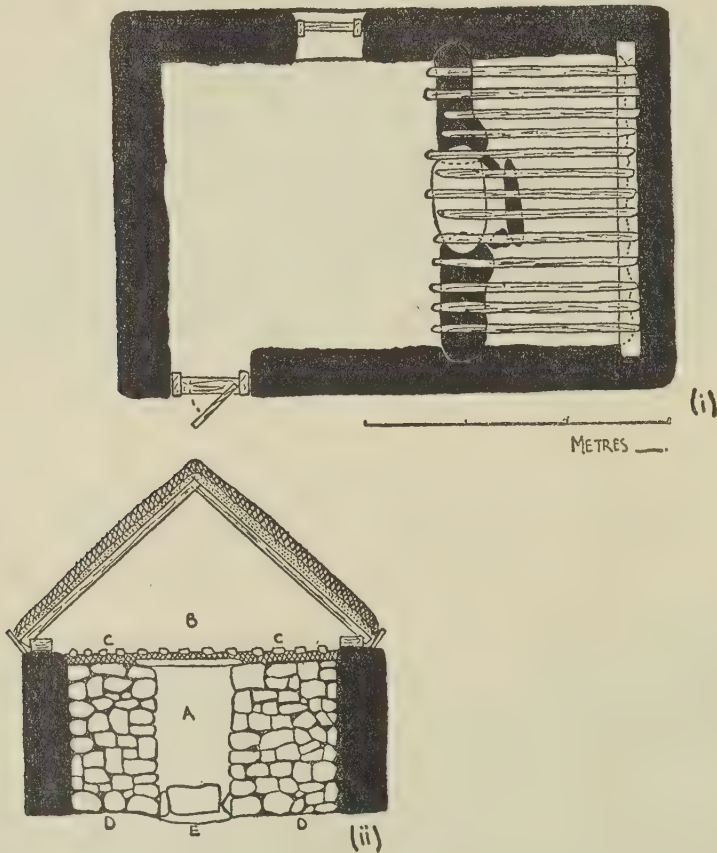


FIG. 1. PLAN AND SECTION OF FAEROE KILN-HOUSE

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this would cause too much loss of heat, and the smoke circulates round the barn; peat smoke is not unpleasant, but a hatch can be opened to allow it to clear from time to time. Drying continues night and day and the corn is treated in batches until the whole crop is dried. The dried ears are piled on the floor of the barn and are bruised with the feet, threshed with bats and winnowed in a tray. The grain is then ready for milling in the hand-quern, but it is preferable to store it until required for use, as this allows the flavour of peat smoke to pass off.

## CORN-DRYING KILNS

In the northern Shetlands a smaller kiln was used, though none are now known to be in operation. It was box-shaped and built of stone with clay mortar in the corner of the barn (FIG. 2). Poles were laid on the open top of the kiln and on these straight straw was laid; the grain, already threshed, was strewn on this or on sacking spread upon the straw. The fire was made in a hole in the end-wall of the kiln and a slab on edge prevented it spreading inwards; in addition a horizontal baffle-slab stretching at least half-way across the kiln from the top of the fire opening protected the straw from sparks.

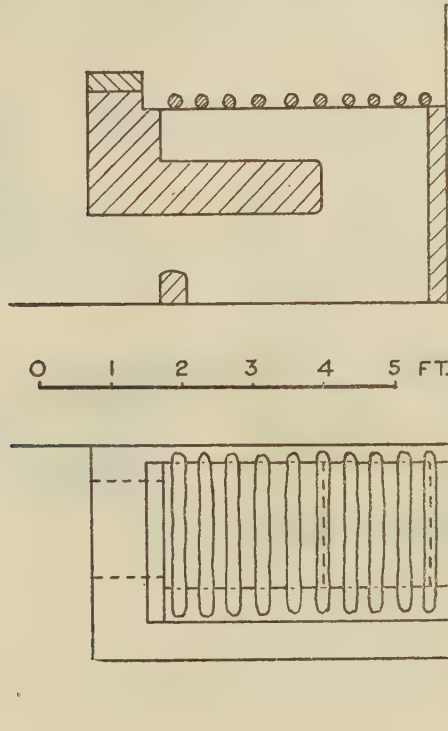


FIG. 2. LONGITUDINAL SECTION AND PLAN  
OF NORTH SHETLAND KILN

This elaborate baffling is surprising seeing that peat was used as fuel, but in these small kilns the fire was very close to the corn.

The Orkney kiln, which was used also in the southern Shetlands, was a much larger affair, reflecting doubtless the more fertile character of the arable soils of those sandstone lands (FIG. 3)<sup>10</sup>. It was built at the end of the barn and was provided with a flue leading the smoke from a fire made in the barn, and with a massive chimney, as much as 15 feet high, to draw the smoke through the layer of grain. This was strewn on straw supported on a rack of poles set some three feet above the floor of the kiln; to this rack access was

<sup>10</sup> Roy. *Commn. Anc. Mon., Orkney and Shetland*, I, 56; A. Roussel, *op. cit.*, figs. 38 and 39.



## ANTIQUITY

given by steps and a door in the side of the kiln. The fuel used would generally, if not always, be coal.

A kiln excavated by the writer at Griminish in North Uist shows the type once used on crofts in the Outer Hebrides (FIG. 4). It occupied the end of a small barn, the space beyond an orthostatic cross-wall some three feet high being filled up solid. In the platform thus made was a cobble-lined basin, to which led a flue with dry-built walls, slab roof and cobbled floor. The peat fire was made at the entrance of the flue and the draught was assisted by side slabs standing out into the barn; a moveable slab was probably laid across these. In use a central pole was laid across the basin, and on this a number of cross-poles; the rack thus made was covered with a layer of straw, on which

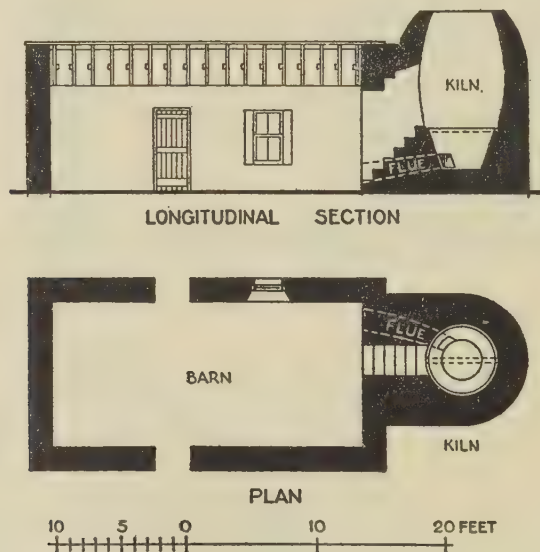


FIG. 3. KILN AT EXNABOE, SOUTH SHETLAND

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the grain was spread. The walls of the barn stand to their original height of 3 feet 6 inches to 4 feet and there was neither window nor chimney; the roof had doubtless been the normal blackhouse roof with no smoke-hole other than a gap in the thatch at eaves-level normally kept closed by a board. While the kiln alone was excavated, and no dating finds were made, the structure can confidently be attributed to the 19th century.

In backward areas in northwest Lewis kilns of this general type, if of rather inferior construction, have survived in use to within the last ten years. One such at South Galson has been planned and photographed by Mr Stevenson (FIG. 5 and PLATE). The basin of the Uist kiln is replaced by a steep-sided pit opening from a platform 2 feet 6 inches high; the flue, which is 2 feet high, stands further out into the barn and has at its mouth a low recess, said to have been for peats but small for that purpose. The barn retains the primitive oval plan and had had an ordinary blackhouse roof, as is confirmed by a similar structure observed at Bragar in 1939 roofed and still in use.

## CORN-DRYING KILNS

A stone-lined pit recorded long ago in Strathnaver in northern Sutherland may represent the remains of a kiln of this type<sup>11</sup>. Southward the range of the type extended as far as the Isles of the Sea in the Firth of Lorn, where a characteristic example on Eileach an Naoimh was described and planned in 1861. This was planned as part of the early monastic settlement on the islet, which has been supposed to be the *monasterium Elenae insulae* of Adamnan, but we may more safely believe the minister of Colonsay of that day, who recollected the kiln to have been in use by the father of the then tenant<sup>12</sup>.

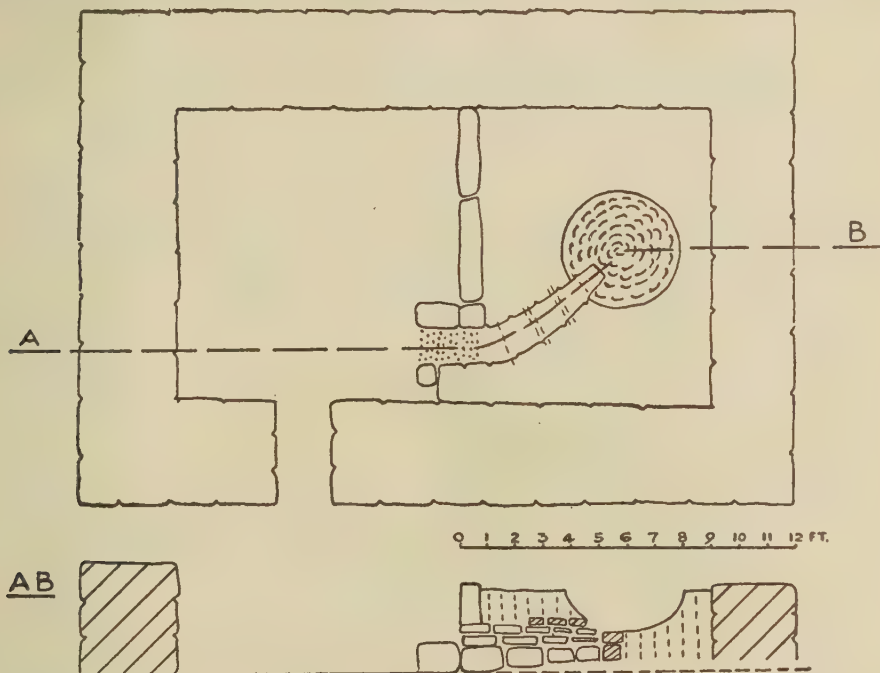


FIG. 4. BARN AND KILN AT GRIMINISH, NORTH UIST  
Plan and section along AB

The Irish kilns have been generally described by Prof. Estyn Evans<sup>13</sup>. They belong to the township, and were everywhere displaced a century or more ago by larger kilns attached to the mills; only some few survive for preparing grain for poteen. Their distribution was mainly western and northern but they are recorded as far to the

<sup>11</sup> *P.S.A.S.*, VII, 273.

<sup>12</sup> T. S. Muir, *Characteristics of Old Church Architecture in the Mainland and Western Islands of Scotland*, 1861, 142 (with plan); Reeves' edn. of Adamnan, *Vita S. Columbae*, II, xviii and note on p. 127; J. Anderson, *Scotland in Early Christian Times*, 1881, 98, n. Anderson is mistaken in comparing the kiln to one in Fair Isle planned, but not described, in Muir's *Ecclesiological Notes on Some of the Islands of Scotland*, 1885, 250; this is almost certainly of the Orkney type. A kiln now being excavated by Mr Megaw shows that the Hebridean type extended as far south as the Isle of Man.

<sup>13</sup> *Irish Heritage*, 85.

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southeast as Co. Cavan<sup>14</sup>. They were circular or semi-circular in plan, often built into the side of a bank, and were of dry-stone or stone and mud. Some were open at the top, while others had a conical roof of timber and thatch. The fire might be made directly under the drying corn, or at the outer end of a flue leading into the kiln. The grain was spread upon a linen sheet resting on a bed of straw, or directly on the bed of straw.

A sectional drawing of one of the roofed kilns, described as 'like a huge tobacco pipe', has been recorded<sup>15</sup>. The flue led the smoke of the fire into a circular chamber sunk in a sloping bank and roofed with timber and thatch; there was no smoke-hole, but

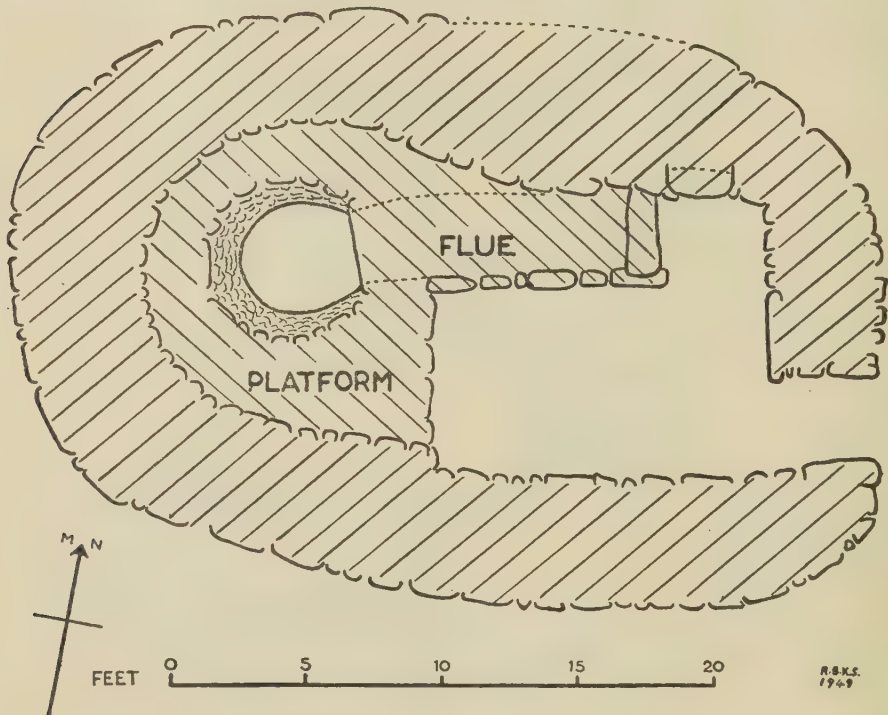


FIG. 5. BARN AND KILN AT SOUTH GALSON, LEWIS

a hatch of straw-covered wattle in the slope of the thatch gave access to the chamber. Across the upper part of the chamber were fixed three poles, which supported sticks laid transversely to them; on these was laid the bed of straw on which the grain was strewn. This kiln was in Mayo and the fuel used was peat.

A kiln of different type closely resembling that of the Hebrides, but unroofed, has been planned by Mr A. T. Lucas in Valentia Island (FIG. 6). It was set in a stone platform built on the slope of a hill. A passage some three feet wide and high cut into the platform and gave access to the mouth of a slab-built flue opening midway along one of

<sup>14</sup> C. Coote, *A Statistical Survey of the County of Cavan*, 1802, 244; E. Wakefield, *An Account of Ireland Statistical and Political*, 1812, 365,

<sup>15</sup> *P.R.I.A.*, xxvi, Sect. C., 265 and pl. xx, fig. 6.



## CORN-DRYING KILNS

its sides. The flue was one foot high at its mouth and led horizontally into the bottom of a cylindrical pit opening from the surface of the platform. Poles set across the top of the pit doubtless supported a layer of straw on which the grain was strewn ; and here also, it may be assumed, the fuel was peat. On the mainland of Kerry, in Emland Townland, Prof. O'Riordain excavated a kiln which can probably be recognised as of similar use and operation, though there was no record of its employment and no dating finds were made<sup>16</sup>. It was sunk in the ground and the pit was shallower, but its essential features were the same as those of the Valentia kiln. Charcoal was strewn from outside the mouth of the flue to its opening into the pit and the fuel must have been wood.

No plans exist of the farm kilns of Wales, but corn-drying barns such as have been discussed above are clearly reflected in the following description, though the method of operation remains vague : ' low walls of stone, thatched roof, and a loft or a kind of

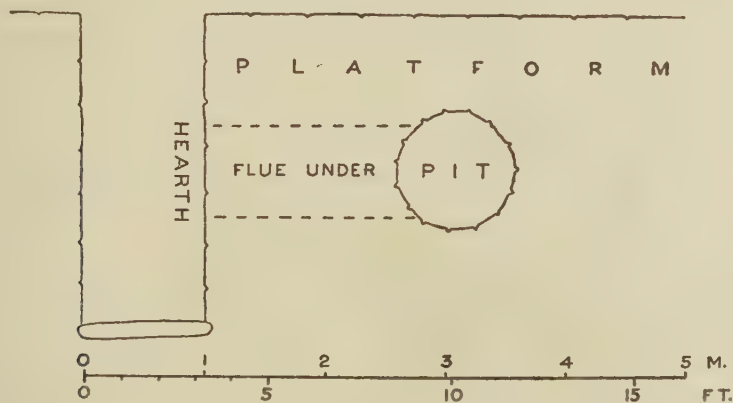


FIG. 6. SKETCH PLAN OF KILN SET IN STONE-BUILT PLATFORM,  
VALENTIA ISLAND

hurdle of poles and twigs across one end with straw spread upon it to hold the corn. Beneath was a place to light a fire<sup>17</sup>. Other references occur to unenclosed kilns for the drying of corn in the field. From the descriptions, these consisted of a pit dug in a bank, and sometimes as much as three yards long and two yards wide and deep ; this was covered by a wooden framework, flat, or sloping upwards away from the fire ; the framework supported a layer of straw, or a hair-cloth sheet, or both, on which the corn was spread. The fire was made at the lower end of the pit, or, apparently more usually, at the mouth of a stone-built flue leading into the pit. The flue might be as much as ten yards long, causing great loss of heat ; the apparent reason being the use as fuel of straw, furze or brushwood, which would shower sparks. Where the fire was made in the pit itself, it is significant that the stoker kept a tub of water by him. A dry, breezy and, if possible, frosty day was chosen to ensure the drawing of the kiln, and presumably the whole crop was dried at one time after threshing<sup>18</sup>.

<sup>16</sup> *Cork Hist. Arch. Soc.*, XLVI, 98.

<sup>17</sup> Translated by Mr Payne from J. Jones, *Llên Gwewin sir Gaemarfon*, 1908, 63.

<sup>18</sup> F. S. Price, *History of Llansawel*, 1898, 34 ; letter from E. Evans of Parselle in *Pembroke County Guardian*, Jan. 1, 1898.

Unenclosed kilns such as these must have been highly wasteful of heat ; they reflect a superfluity of the cheap fuel used. That they have been used in some other parts of Britain appears probable from a vague description of a kiln in Banffshire : A hole was cut in the face of a hillock, and pieces of trees, with drawn straw, were spread thereon called ' kiln-stickles '. The corn was put upon the top, and a fire lighted in front ; at the back of the kiln there were openings to draw the heat<sup>19</sup>. How much more widely such methods prevailed is not known.

As has been said, the drying of corn before threshing occurs in Scandinavia, though the practice is not a general one. Drying before grinding is, however, general, though it is not strictly kiln-drying. Nearly every farm in Sweden, and the same seems to be true of Norway, has a small drying-house known (in Swedish) as a *bastu*, or bath-house. In this, commonly in the middle, is a stone-built furnace—a short tunnel, open at the firing end, with a roof of one or more slabs ; the smoke from this escapes through apertures at the further end into the room, round which it circulates, since there is no chimney. Broad racks fitted all round the walls fill most of the remainder of the room, and on these corn, flax and malt are spread out to dry ; the house serves also for the smoke-drying of meat<sup>20</sup>. Inasmuch as the heat is not applied directly to the corn, this arrangement is not strictly a kiln, and, though no longer so used, the buildings appear to originate in the houses for steam ( ' Turkish ' ) baths, which are mentioned in the *sagas*. They were presumably introduced in the Dark Ages from Byzantium up the Baltic-Black Sea trade routes, and the original purpose of the furnace was to produce a cloud of steam by pouring water on the heated stone structure.

The kiln-drying of corn in antiquity has been little studied save in the Roman period, but for the Dark Ages some little light comes from literary sources in the West. Thus it appears that the *familia* of St. Cainnech were forced to thresh in the open air and on the bare ground for lack of a barn (*canaba*) for the drying and threshing of their corn. From an obscure story about St. Ciaran, we can deduce that drying was done in a round wattle-structure (*rota de virgis contexta*) set in sand, or possibly clay (*zabulum*), over a fire in the *canaba* ; the description given suggests the barrel-shaped kiln of clay-covered wattle seen by Boswell on the hearth of the farmhouse in Raasay. The writer further records drying for the purpose of threshing to be a western practice (*secundum morem occidentalium, id est, Britannie et Hyberniae*). But no more can certainly be concluded from the passages than that corn was, desirably, kiln-dried before being threshed in the barn in which the kiln stood. We are unfortunately not told the use to which Adamnan's *canaba* at Iona was put, and the kiln and granary seen by Pennant in 1772 near the mill and mill-pool may have been of much later date<sup>21</sup>.

<sup>19</sup> J. F. S. Gordon, *Chronicles of Keith*, 1880, 107.

<sup>20</sup> For Sweden see Sigurd Erixon, *Svensk Byggnadskultur* (Stockholm, 1947, in Swedish), 176 and figs. 208 and 523a ; for Norway see *Norske Bygder*, Bd. IV, *Sogn* (1937, in Sogn dialect), 230 and figures there quoted.

<sup>21</sup> Attention was first drawn to these references by Mr O. G. S. Crawford in a note to Dr Curwen's paper in *ANTIQUITY*, XII, 286 ; the passages are recited in Reeves' *Adamnan*, 88. Reeves confused the *canaba*, which undoubtedly means a storehouse, with the kiln ; the examples given above show that what was meant was a barn containing a kiln and also floor-space for threshing. For Iona, see Adamnan, *Vita S. Columbae*, I, xlv ; Pennant, *Tour in Scotland*, II, 296 ; O. G. S. Crawford, *ANTIQUITY*, VII, 453 (with map) ; only the drained mill-pool is now identifiable. A stone-built flue leading from one earth-dug pit to another in Ballycatteen Fort, Co. Cork (*P.R.I.A.*, XLIX, C, 12) may well be a corn-drying kiln of this period (c. 600 A.D.), but produced no evidence of its use.

## CORN-DRYING KILNS

In the Roman period kilns existed in towns, villages and villas spread over the Province, and not confined to the west ; they are all dated to the 4th, or at earliest to the 3rd, century<sup>22</sup>. The kilns were first distinguished from hypocausts by Prof. Gowland, who attributed their use to the practice recommended by Pliny of reaping wheat before the grain hardens and is fully ripe<sup>23</sup>. While however the small-scale parching of *far* in baking ovens is mentioned in the Roman authors quoted above, there seem to be no references to kiln-drying, and no kilns are believed to have been found in the continental Roman Empire. It seems more likely that the Romano-British kilns represent the adoption and development of a native practice, perhaps a western one which spread over the Province with the decline in climate in the course of the Roman period.

The Romano-British kilns consist of a stoking pit opening on to a horizontal flue; at least in the case of those which have been recognised as designed for corn-drying, the flue expanded at the end, and they are generally known as T-shaped ovens, though other and more elaborate forms occur. They occur within buildings, commonly re-used, and that in a former living room of a villa at Atwood, Wiltshire (FIG. 7), shows that the flue was roofed by two layers of slabs, the upper set six inches above the lower. The lower layer stopped short of the end of the flue and allowed the smoke to enter and circulate in the hollow space between it and the upper layer, while a controllable vent set between the two layers permitted its escape. The fuel was doubtless wood and, if the grain was laid on the upper layer of slabs, it would be protected alike from sparks, from over-drying and from becoming smoked.

These kilns occur in native villages of the Province from Dorset to the Yorkshire wolds, all dated to the 4th century. At an earlier date, not after the 1st century B.C., kiln-drying has been suspected to have been employed at the Wiltshire farm of Little Woodbury on the strength of fragments of domed cob-ovens found with ash and splintered flints in refilled storage pits<sup>24</sup>. Though there is no direct evidence, Dr Bersu believes these pits to have been used for the storage of threshed grain and, since the quantity of oven-fragments appears to be in excess of that to be expected as the refuse of cooking ovens, he suggests that it represents ovens for parching grain prior to pit-storage. This may perhaps be doubted : domed ovens of three feet diameter are too small for the quantity-drying of grain, and are designed to give a temperature which for that purpose would be an embarrassment. Nor would the case for the pit-storage of grain seem to be a strong one : it could be preserved in better condition if stored in the straw in ricks, and large platforms were shown to have existed on which the ricks could be built protected from mice. These platforms might indeed have been built up into covered barns, for, as will appear, Mediterranean travellers were impressed with the use of barns for grain-storage in the north. The pit-storage of corn is discussed by Pliny, and recommended as an economical method provided the soil is dry and the grain is stored in the ear ; he records it to be adopted in Cappadocia, Thrace, Spain and Africa<sup>25</sup>. At Woodbury the essential condition stipulated by Pliny, namely that the pits must be dry, would be only

<sup>22</sup> For a recent discussion, with references, see *Ant. J.*, 1943, 148 ; the method of working of the kilns was there first demonstrated. A possible kiln of the late 2nd century is in the Park Street villa, St. Albans (*Arch. J.*, cii, 110), but the reconstruction with a wooden flue, and the interpretation as a corn-drying kiln, are tentative and seem doubtful.

<sup>23</sup> *Arch. LXXI*, 158 ; *Natural History*, xviii, 298. Pliny's argument (that, if fully ripe, the grain falls out of the husk) is, I am told, not cogent ; certainly the practice he recommends has not found favour.

<sup>24</sup> *P.P.S.*, 1940, 60-3.

<sup>25</sup> *Natural History*, xviii, lxxiii.



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questionably satisfied ; surface drainage apart, water would seep in through the porous chalk walls. Some case might be made for their use as a protection from theft, but not where the pits were in the farmyard. It is more likely that the pits provided storage for other foodstuffs, notably the quantity of air-dried or salted meat which the farm must have needed to preserve after the Michaelmas slaughter of the beasts which could not be kept alive over the winter.

The Woodbury farmhouse was of the aisled roundhouse type, and another such house belonging to the Iron Age B occupation of Maiden Castle had domed ovens, and

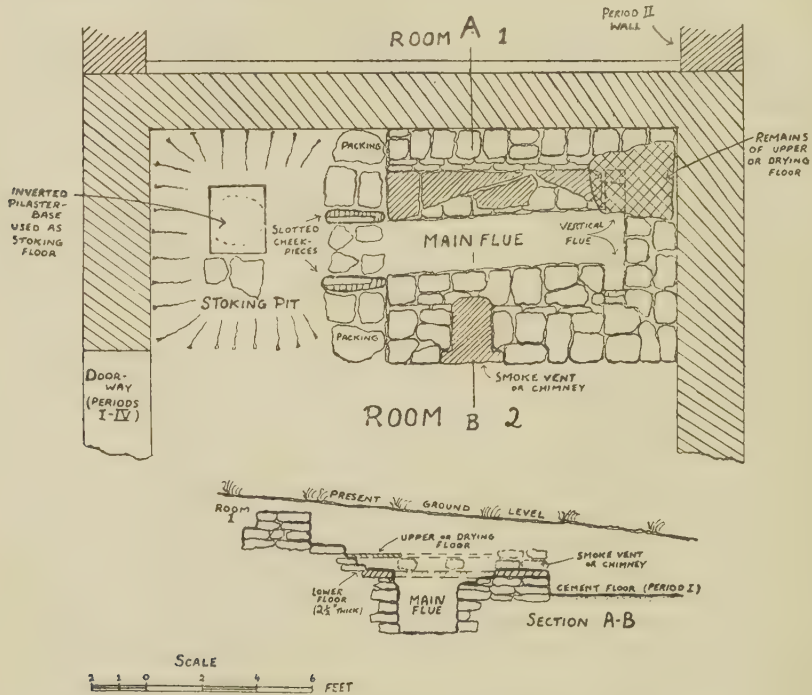


FIG. 7. KILN AT ROMAN VILLA, ATWORTH, WILTS

Reproduced by permission from *The Antiquaries Journal*

also, in the debris of the filled storage pit in its floor, fragments of perforated clay oven-shelves some 14-16 inches in diameter<sup>26</sup>. These clay shelves, like the ovens themselves, seem to be adapted to cooking, the purpose to which they are generally attributed ; they occur at other Iron Age B and Belgic sites from Wiltshire to Verulamium. In the very numerous aisled roundhouse farms of the west and north no kilns have been reliably reported, though the farms have extensive covered or underground storage space. One of these farms now under excavation in Barra, however, has attached to it a drying-room, which may well prove to be a regularly built kiln-house.

That the practice was not unknown in the northwest about the beginning of the present era is shown by a croft belonging to another culture. This was at Unival in North

<sup>26</sup> R. E. M. Wheeler, *Maiden Castle*, 96 and 321.

## CORN-DRYING KILNS

Uist, and its modest house consisted of a small, rectangular room with a still smaller barn opening off it<sup>27</sup>. The barn, which yielded no artifacts, had a huge fire of peat at one apsidal end and was otherwise occupied by a stone platform. No purpose other than the drying of corn appeared for the large fire and the platform, on which the grain would have been spread on a layer of straw, as in the Faeroe barns described above.

A statement of Diodorus Siculus (v, 21) would carry us a little further back if, as is likely, it reflects Pytheas' account of his voyage in the 4th century B.C. He says that in

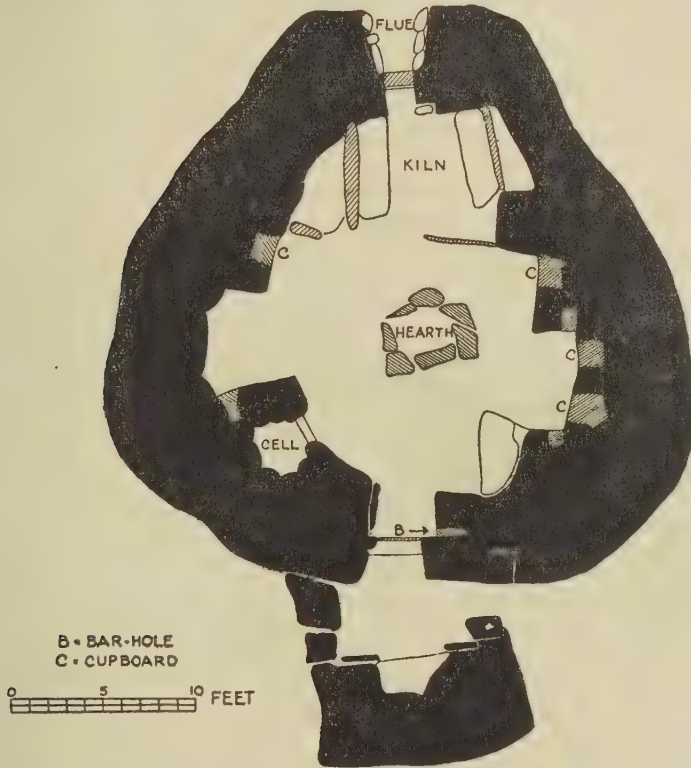


FIG. 8. SKARA BRAE, ORKNEY, HUT 8

Reproduced by permission from *Scotland before the Scots* by V. G. Childe

Britain 'the method they follow in harvesting their grain crops is to cut off no more than the ears and store them in roofed buildings; then each day they pick out the old ears and grind them, getting in this way their food'. There is no reference here to drying, but the barns mentioned may well be similar, and of similar use, to those described above. We know from Strabo (iv, v) that Pytheas had recorded that in the far north ('Thule') it was necessary to thresh and store the corn in great barns, open threshing-floors being useless on account of the rain and lack of sun. We are significantly reminded of the

<sup>27</sup> *P.S.A.S.*, LXXXII, 3.

troubles of St. Cainnech's *familia* and of the ' practice of the westerners ' in the use of barns which certainly included kilns.

A kiln at Muirkirk at the head of the River Ayr is of the Hebridean type described above, and is possibly to be attributed to the beaker period with the house outside which it stood.<sup>28</sup> Glazed sherds on rough cobbling just underneath the turf showed that the house had been re-used and, since the relation of the kiln to the house-foundations was not determined, its association with either occupation level is uncertain. It is however very unusual to find an ancient house re-used otherwise than casually for temporary shelter, and in this case no hearth was found at the level of the glazed sherds; and indeed at that level the house-wall was not disclosed throughout its circumference. Tentatively therefore we might infer that the use of the site as a permanent dwelling was in the beaker period, and further that the kiln belonged to the house as so used; for one does not build one's kiln far from one's house. It is hardly an objection that a similar kiln three miles away had one wall in common with a small, rectangular hut and was thought to have been fired with the local coal; for the use of coal as a fuel is known in the culturally related area of the Bristol Channel contemporaneously with collared urns<sup>29</sup>. These excavations were however too imprecise to establish more than a probability that the Hebridean type of kiln was in use in the beaker period.

We are on surer ground in detecting a corn-drying kiln in Hut 8 at Skara Brae (FIG. 8)<sup>30</sup>. This building was not in use for habitation, though it may initially have been a dwelling, and Prof. Childe showed that its northern end was employed as a kiln. It was not a pottery-kiln, since there were no wasters and few sherds, and Skara Brae pottery is patently not kiln-fired; its design moreover shows it to be a low-temperature kiln, and the peat fuel used would make the temperature lower still. The only alternative use of the kiln appears to be for corn-drying, for which the analogous structures described above suggest that it would be well adapted; while the building would be the hamlet's barn. The kiln is enclosed by an orthostatic cross-wall, of which half survives complete and stands to a height of 3 feet, with an original gap in the middle opposite the hearth. At right angles to the cross-wall, two slabs on edge 1 foot 6 inches high and 7 feet apart would support poles on which a straw-layer and the corn would be laid. Beyond these slabs, and floored at the level of their tops, a narrow flue leading horizontally through the barn-wall would draw the smoke of the fire through the corn and out of the barn. The building was exceptional in having a porch, and this may have been provided, and subsequently altered, to prevent the back-draughts to be expected on that gusty shore.

This evidence of the industrial efficiency of the colonists who opened up western Britain in the 2nd millennium need not surprise us. One of the houses at Rinyo, Skara Brae's more northerly contemporary, had a clay oven beside the hearth for cooking; further south, in Uist, Western Neolithic pottery was manufactured industrially and fired in stone-built kilns.

<sup>28</sup> *P.S.A.S.*, XLVIII, 375; LIX, 270.

<sup>29</sup> *Arch.*, LXXXVII, 137.

<sup>30</sup> *P.S.A.S.*, LXIV, 173; *Skara Brae*, 49; *Scotland before the Scots*, 31.



# Important New Books and Articles

*The inclusion of a book in this list does not preclude its subsequent review*

- ITALIAN MERCHANTS AND SHIPPING IN SOUTHAMPTON, 1270-1600, by Alwyn A. Ruddock, Southampton : University College, 1951. 25s. [This, the first publication of the recently revived Southampton Record Society, appears under the general editorship of Professor H. Rothwell, and is a fine start of what we hope will be a long and valuable series. It is based upon original research and unpublished records (here and in Italy), and is of far more than local importance].
- THE MUSLIM ARCHITECTURE OF EGYPT : I. Ikhshids and Fātimids, A.D. 939-1171, by K. A. C. CRESWELL. Oxford University Press. £15 15s.
- THE FUNG KINGDOM OF SENNAR, with a Geographical Account of the Middle Nile region, by O. G. S. CRAWFORD. Bellows, Gloucester, £2 17s. [See review by Sir Harold MacMichael on pp. 215-17].
- ASPECTS OF ARCHAEOLOGY IN BRITAIN AND BEYOND : Essays presented to O. G. S. Crawford; edited by W. F. GRIMES. H. W. Edwards, 102 Gt. Russell St., W.C. 1. £2 10s.
- THE PREHISTORY OF WALES, by W. F. GRIMES. National Museum of Wales, Cardiff. 15s. [A second and revised edition of this standard text-book, first published in 1939].
- THE ARCHAEOLOGY OF THE SANTA ELENA PENINSULA IN SOUTHWEST ECUADOR, by G. H. S. BUSHNELL. Cambridge Univ. Press. £2 2s.
- THE PREHISTORY OF JAPAN, by GERARD J. GROOT, Director of the Archaeological Institute of Japan : edited by BERTRAM S. KRAUS. Columba Univ. Press (London : Geoffrey Cumberlege). £2 15s.
- EXCAVATIONS AT DORCHESTER, OXON., by R. J. C. ATKINSON, C. M. PIGGOTT and N. K. SANDARS. Ashmolean Museum, Oxford. 13s. 6d. [An admirable 1st report on this very important field, with a chapter on Henge Monuments by Mr Atkinson. The whole publication is a model of what such should be, and we shall review it in a later number].
- THE CITY OF EDINBURGH : an Inventory, published by the Royal Commission on Ancient Monuments (Scotland). 45s.
- BRITAIN'S GREEN MANTLE, by A. G. TANSLEY. George Allen & Unwin, 1949. [Although not archaeological or recent, we mention this book because archaeologists, who are all interested in man's environment past and present, will find a lot of relevant material in it].
- PREHISTORIC INDIA, by STUART PIGGOTT. Pelican Books, 2s 6d. [To be reviewed later].
- THE BIRTH OF CIVILIZATION IN THE NEAR EAST, by HENRI FRANKFORT. Williams & Norgate, 16s. [To be reviewed later].

## Notes and News

### CARLWARK, A HILL-FORT IN DERBYSHIRE

The great hill-fort of Carlwark (Nat. Grid Ref. SK 260815) five miles to the south-west of Sheffield has never been given the attention it deserves, and the purpose of this note is to rescue it from comparative obscurity, and to claim for it a place amongst the most spectacular and easily accessible forts in this country.

No adequate plan has hitherto been published, though an 18th century one published in *Archaeologia* VII (1783), 175, gives a more accurate impression than the thumb-nail sketch of the *Victoria County History*.

The sketch plan here published (FIG. 1) was based on a compass survey made by the writer in 1948. By a strange coincidence Mr F. G. Simpson cut a section through the main defensive wall of the fort two years later. In this note the information obtained by him has been incorporated with his kind permission.

The fort was built in what must always have been a wild and exposed piece of moorland scattered with large boulders and outcrops of Millstone Grit, at an altitude of over 1200 feet. The site is a long D-shaped plateau with natural defences of steep scarps on all sides except the west. Remains of a defensive wall exist at many places along the scarp edge, and may have formed a complete circuit, though now represented only by a few courses of massive stonework in the surviving stretches. There is a single entrance on the southwest in good preservation and a little over five feet wide at the inner end of the wall-flanked inturn (PLATE).

On the more or less level ground at the base of the promontory, however, a very massive defence of a different character has been constructed. It consists of an originally vertical wall-face of large, carefully chosen blocks, backed by, and, as the excavation showed, bonded into a strong turf ramp on its inner side (FIG. 2). This great defence runs in a straight line for over a hundred feet and is over eight feet high. The settlement and consolidation of the turf ramp has caused the upper stones to tilt backwards, but its state is otherwise perfect, and there is no indication of slighting.

Students of Iron Age forts in the highland zone of Britain will immediately be aware that there is nothing familiar in the defensive structure of Carlwark. Fortunately however in recent years attention has been drawn to the use of turf work in Dark Age contexts, perhaps the best known of such sites being the latest defences of Traprain Law in East Lothian, excavated by Mr Cruden in 1939<sup>1</sup>, and again, by Professor Bersu some years later.<sup>2</sup>

The use of turf in Roman military earthworks is well known, and the suggestion has been made that this tradition lingered amongst the native peoples after the end of the Roman occupation.

The date of Carlwark then may be as late as the 5th or 6th centuries, or even later, and it is hoped that historians of the Dark Ages may be induced to discuss the possible historical setting for this fort.

C. M. PIGGOTT.

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<sup>1</sup> *Proc. Soc. Ant. Scot.* LXXIV (1939-40), 48-59.

<sup>2</sup> See *The Archaeological News Letter*, I, No. 5 (August-September 1948), 12, and *Aspects of Archaeology in Britain and Beyond* (1951), 200-13.

# SKETCH PLAN OF CARLWARK FORT, HATHERSAGE, DERBYSHIRE.



FIG. I



CARLWARK  
RAMPART SECTION. 1950.  
(AFTER F.G. SIMPSON)

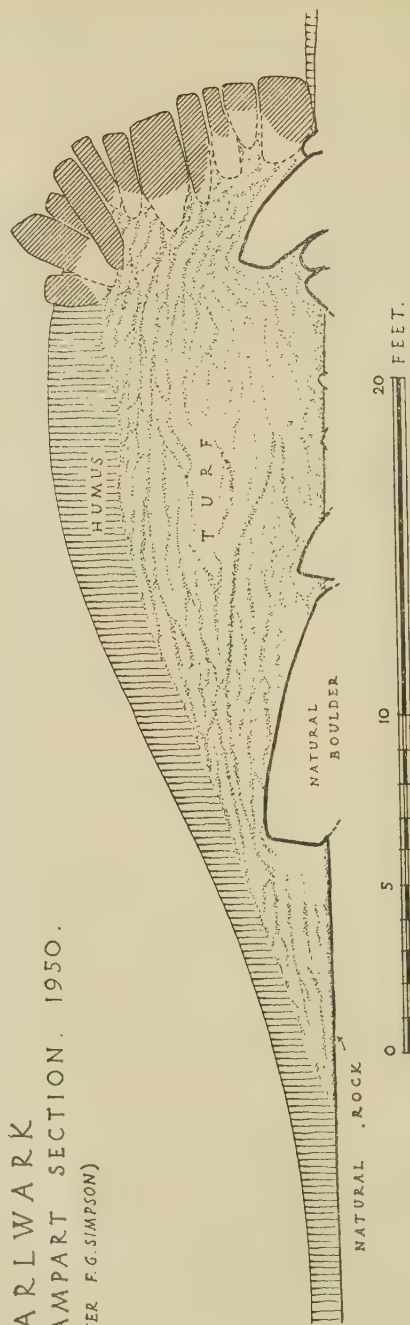


FIG. 2

## EXCAVATIONS AT GLASTONBURY ABBEY, 1951

Excavations at Glastonbury Abbey were carried out for many years until their suspension in 1939. In the years before 1930 the Saxon church, built by King Ina and subsequently enlarged on two occasions, was found at the west end of the nave of the later abbey church. The latest Saxon work belonged to the time of St. Dunstan, who was Abbot of Glastonbury in the middle of the 10th century (*Ant. Journ.*, x, 24). Subsequent attempts to find the Saxon cloister were not successful and attention was then turned to the east range and other later medieval buildings.

The Excavation Committee of the Society of Antiquaries and the Somerset Archaeological Society has now been reconstituted with Mr H. St. George Gray as Secretary and two weeks' work have been carried out. The area explored lay outside the southwest corner of the cloister on either side of the west end of the Frater. Three periods of building have been found. The latest walls belong to the rebuilding after the fire of 1184, in which the whole abbey was destroyed. These are marked by massive foundations of Torr burrs, and though much of the superstructure was rebuilt in the 14th and 15th centuries, it is now clear that these foundations belong to the period about 1200. Below the floors of this work were older walls levelled off to form part of the bedding on which the later pavements rested. One of these walls is in fine ashlar and the whole system dates from the 12th century, forming part of the buildings erected by Abbot Henry de Blois, who completed the church, which Herlewin, the second Norman Abbot, had begun, and erected the whole of the cloister with its surrounding buildings. The bedding for the pavement of Henry de Blois' cloister was found at one point, the coarse mortar fill piled up against the face of a much older wall, which had been incorporated in the 12th century work. The ground level of the older wall lay about 18 inches below the floor of the 12th century cloister and was marked by a wide offset. Other walls of the same character have been recorded both within the cloister walk and further south beyond the Frater. The masonry was very similar to that of the 10th century additions to the Saxon church and the walls formed part of a range of buildings aligned with the eastern part of that church. The evidence clearly indicates that they are part of a layout of the age of St. Dunstan and that they form part of a range of buildings running north and south. This range is 20 feet wide and has been traced for over 90 feet. The end has been found in neither direction. Northwards it probably extends as far as the church which would give a total length of over 200 feet. The plan suggests that this is the range on the east side of the Saxon cloister, giving a layout on the scale of the 10th century abbey at Cluny (*Archaeologia*, LXXX, 167). The identification of these Saxon walls should provide a clue to the arrangement of St. Dunstan's work including his enclosure of the 'ancient cemetery', which forms the heart of the Celtic monastery. It is hoped to continue the work in 1952. C. A. RALEGH RADFORD.

## WILLIAM STUKELEY—A FOOTNOTE

I have seen several notices of Professor Piggott's admirable biography of William Stukeley<sup>1</sup>, but none of the reviewers have commented on the fact that Professor Piggott omits any reference either to Stukeley's place of burial or to his Will.

A probate copy of Stukeley's Will was discovered by my colleague, Mr F. G. Emmison, F.S.A. (County Archivist of Essex), as a 'stray' among some miscellaneous documents in the Essex Record Office, and he kindly brought it to my notice. The Will, dated 22 July, 1759, is sufficiently brief to be quoted in full :—

<sup>1</sup> See *ANTIQUITY*, xxv, p. 10.

## ANTIQUITY

I WILLIAM STUKELEY M.D. Rector of S. George Queen Square do make this my last Will Whereas On my decease there is an eventual Payment to be made out of my Estate of thirteen Hundred Pounds to the Revd Mr Fairchild my Son in Law and the certain payment of the like Sum to Mr Richard Fleming my Son in Law Pursuant to thir [*sic*] respective Marriage Settlements after payment of the said Sums I Give the rest and Residue of my real and Personal Estate to the said Mr Fleming and Constitute him Executor of my Will WITNESS my Hand and Seal this 22d day of July 1759

Signed Sealed & Published  
in Presence of D<sup>d</sup> Horne  
John Hall      G. H. Cox

W<sup>m</sup> STUKELEY

L.S.

An undated codicil is as follows :—

ITEM I Give and bequeath to my Servant Sarah Bridgman [deleted and the name Baillie written above] One Hundred and Twenty Pounds to my Man and Maid Servants and to Mrs Thomson at Kentish Town then being in my Service ten Pounds each these Legacys to be paid in a Month after my decease

ITEM I direct that my Body be buried in a private manner in the Church-yard of Eastham on the north part according as the Rector Mr Sims if then living and the said Sarah Bridgman shall appoint the ground and grass to be levelled over without any apparent Mark or Monument

The Rev. Mr Fairchild was the husband of Stukeley's daughter, Anna, while Richard Fleming had married another daughter, not named by Professor Piggott. It would have been interesting to know what was the basis of the friendship between Stukeley and Joseph Sims who was vicar of East Ham, Essex, and rector of St. John's, Westminster. Stukeley was buried in East Ham churchyard, without a monument, in a spot said to be of his own choosing<sup>2</sup>. Although Stukeley's Will specifies a somewhat unusual position on the north side of the churchyard, the Rev. M. O. Hodson, in *East Ham Parish Church* (1937), p. 12, says that 'the famous antiquary, who died in 1765, is also buried on the south<sup>3</sup> side . . . he was a great friend of the Rev. Joseph Sims . . . and wished to be buried near him'. Sims, however, did not die until 1776.

FRANCIS W. STEER.  
(*Essex Record Office*)

### XXXTH INTERNATIONAL CONGRESS OF AMERICANISTS

On the invitation of the Royal Anthropological Institute, accepted at the New York Session in 1949, the International Congress of Americanists will hold its Thirtieth Session at Cambridge (England) from 18 to 23 August, 1952. Accommodation for most of the delegates will be provided in one or more colleges of Cambridge University. Subscriptions for full membership will be £3 3s. and for associates £1 1s.

Enquiries should be sent to the Joint Secretaries of the Organizing Committee, International Congress of Americanists, c/o University Museum of Archaeology and Ethnology, Downing Street, Cambridge, England. Contributions towards a Guarantee Fund and donations to the General Fund are invited. Circulars giving full particulars will be issued later this year.

The date of this Congress has been arranged in consultation with the organizers of the International Congress of Anthropological and Ethnological Sciences at Vienna so as to permit those who so desire to attend both Congresses.

<sup>2</sup> K. Fry, *History of the Parishes of East and West Ham*, edited by G. Pagenstecher (1888), p. 271.

<sup>3</sup> My italics.



## Reviews

THE FUNG KINGDOM OF SENNAR, with a geographical account of the Middle Nile region. By O. G. S. CRAWFORD. *Published for the Author by John Bellows Ltd., Gloucester, 1951. Price £2 17s.*

The Fung ' Empire ' formed one of the chain of native States which extended across the African continent from east to west, from what is now Nigeria to Abyssinia. It was founded in 1504 by a conglomerate of negroids from the south and Arabs upon the ruins of the old Christian Kingdom of Soba on the Blue Nile. In the course of the next century and a half it became an effective Mohammedan unit, extending control from the Abyssinian border to the fringes of the Nuba Mountains in Kordofan and from the Burun country in the south to the cataracts of Dongola in the north. Its record was largely one of petty warfare with its neighbours and of internal consolidation and trade in fitful and precarious touch with the outer world. By about 1762 decay had set in ; monarchy gave way to military despotism, and despotism collapsed into anarchy. No Europeans visited Sennar, the capital, between 1772 and 1821, but it is clear enough from such native records as have survived and the eventual outcome of events that internecine feuds, personal jealousies, unrest among the nomad tribesmen inland from the river and the absence of any effective authority at the centre led to chaos. Thus, when the Pasha of Egypt decided that the prospect of a rich harvest of gold and slaves made an expedition against Sennar worthwhile, his task was an easy one. As Mr Crawford points out, the ' Turkish ' army, an ill-disciplined 4000 or so, could easily have been cut off, surrounded and exterminated at any one of several points on their journey by an enemy who had the rudiments of strategy and cohesion, even though lacking the firearms which were the main asset of their adversaries. But this was not to be : the country was overrun piecemeal, and Kordofan suffered the same fate from a separate expedition commanded by Mohammed Bey the Defterdar. Thus was inaugurated the shocking epoch of misrule and atrocity which only terminated with the revolt of the Mahdi in 1881 and the ejection of the Egyptian garrisons, followed by a further period of savagery under the Khalifa which lasted until the re-conquest of the Sudan by Anglo-Egyptian forces in 1898 and its regeneration under British auspices in the years which followed.

The events recorded seem very far away and it is hard to realise that it is only 130 years since the catastrophe of 1821 and that many are still alive who took part in the redemption of the Sudan. Nor, to those who are now witnessing the spectacular economic development of the country and its growing-pains in the field of high politics and constitution-making, is it easy to visualise the appalling state of affairs that preceded the epoch with which they are familiar. But that they should be mindful of the nearness of the past is vital to success in the transition from old to new, from savagery to civilization, from chaos to parliamentary institutions. All history proclaims that the process cannot be squeezed into one or two generations ; and it may be added without irrelevance that the resuscitation by Egypt, at such a stage, of her claim to rule the Sudan seems an act of sheer madness, impractical and suicidal on her part and merely contributory to the seriousness of the complexities that confront not only ourselves but the Sudanese in the task that lies ahead.

The wealth of information about the Middle Nile region and the Fung Kingdom of Sennar contained in Mr Crawford's book is almost overwhelming. Students of Sudanese

history and topography will bless his name for generations to come, and that of the Wellcome Trustees for financing the cost of printing; nor should their gratitude be withheld from the publishers and printers for the admirable way in which they have carried out their tasks. If the book were no more than a compendium of information gathered from many sources, collated and checked, it would be valuable; but it is more: a fine example of scholarly research in the field, of pertinacious industry enriched by the study of relevant authorities—many of them ferreted out of the dark places of museums and libraries. The fifteen pages of bibliography bear some testimony to the scope of Mr Crawford's thoroughness and will be invaluable to those wishing to pursue research still further. The maps, as is to be expected from the author's personal record, are excellent, and it would be hard to overpraise the numerous photographs. The only serious criticism to be made is anticipated in the Foreword—the absence of an index. Apart from its obvious usefulness to the reader, its compilation, though a herculean task, would incidentally have led to the removal of a number of minor inconsistencies in spelling which are not all quite as 'inevitable' as the author says (e.g. 'Bathani' on p. 88 and 'Batani' opposite to it on p. 89; 'Metemma' and 'Metemeh', both on p. 93).

Many skirmishes of the intensity peculiar to archaeologists, anthropologists, classical scholars *et hoc genus omne* will be conducted over details. There is, indeed, ample scope for differences of opinion about the identification of various minor localities and dates and it is to be doubted whether finality will ever be achieved. Early travellers displayed a perverted genius for mis-hearing proper names and it is hard to understand how so many of them could be content to record the hour at which they camped or the colour of a visitor's eyes, while omitting to mention the month, or even the year of the sojourn, its locality or the name of the visitor. Little did those who wandered through the Sudan dream that they would have the Editor of ANTIQUITY on their track a century or two later!

Over the main facts the fighting should be less violent, for the battles have been won. Apart from his own detailed researches on the ground, the records of Bruce, Burckhardt and Cailliaud, the monumental fifteen volumes of Beccari, and the many books and articles published by officials of the Sudan Government and others in this half century have been Mr Crawford's main sources and he pays them generous tribute. He has also re-discovered and unearthed the record written by the Bavarian Franciscan Theodore Krump who, with other missionaries, Jesuit and Franciscan, spent the summers of 1701 and 1702 in Sennar and Gerri and preserved a number of otherwise unrecorded facts concerning the Fung at the zenith of their power. These are extremely interesting, and so too is the account given of the little known journey of Du Roule who was murdered at Sennar in 1705 when on his way to take up his appointment as Ambassador of France in Abyssinia.

A word here about Appendix 15 which deals with the 'Horned Cap' (*tagia um gerein*)—that 'most famous of the insignia of the Fung Empire', with its 'points curving downwards and forwards'. Professor Monneret de Villard, we are told, casts doubt upon the usual derivation of these horns from the ram's horns of Ammon and 'regards them as buffalo's horns and suggests a Persian origin . . .'. But why a buffalo? Why not the 'Yale'? Those who do not know what a Yale is (and even the omnivorous Mr Crawford may have missed it) may be referred to an article written by that great scholar and scientist, once Master of Christ's College, Sir Arthur Shipley. It was published on March 23, 1912, by *Country Life* and entitled 'The Hunting of the Yale'. There was also, I note, correspondence on the subject in *The Times* 'in the early part of the summer of 1911', and Shipley wrote again on 15 June 1926 to *The Times* about it. In brief the Yale is a peculiar horned bull, well known to the writers of bestiaries: it appears

in ancient Egyptian art and is described by Pliny as bred among the Ethiopians (and by Herodotus as among the Garamantes : Aristotle also refers to it). It figures in the arms of St. John's College, Cambridge, in those of Christ's College, and among the ' King's Beasts ' at the Royal Chapel at Windsor and at Hampton Court. It is true that, to quote Shipley's letter of 1926, ' it is in the very essence of the Yale to have one horn pointing forward over the nose and the other horn pointing backward ', but it had become so conventionally stylised in classical and medieval tradition. The main point for our purpose is that, as Dr Seligman told Sir Arthur Shipley, the riverain Dinka of the White Nile, to whom cattle are supreme in affection and value, train the horns of their cattle artificially in fancy shapes—as the Kaffirs also do—but it is not all (again according to Seligman) which are so treated, but only the leader of the herd. ' This leader is called *majok* and there is never more than one *majok* in each herd at one time '. The custom is clearly one of immemorial antiquity and captured the imagination of the classical savants who heard of it from travellers. There can be no certainty that it was only one horn that was trained forward : it may at one time or another have been both ; and if Mr Crawford is right in regarding the Fung as having come from the south-south-east with Nilotic affiliations, is it not just possible that the forward pointing horns of the *tagia um gerein* worn by the ' leaders of the herd ' in the Fung Empire may have some connection with the custom of the Nilotic negroes. At least the theory seems less fanciful than looking speculatively and without evidence to Persia for its origin—and it would be nice to think there was some bond between the traditional emblems of two royal houses !

Some day, and *inshaallah* it will be soon, someone will be found to carry Mr Crawford's great work forward by dealing with the western Sudan as he has dealt with the eastern ; and even if this is not done there are specific localities of which little is known and which would repay all the attention that could be given to them. Mr Crawford mentions several of these, e.g. Gebel Barkal and Old Dongola, and he very rightly urges the use that might be made of air-photography—from a low altitude and vertically. With them your reviewer would bracket Gebel Haraza, that great massif which lies on an ancient trade-route in Northern Kordofan, west of Omdurman, with its population partly Arab and partly ' Nuba ', and Gebel Marra, the cradle of the Fur race and the early seat of their kings, in Darfur. Money would, of course, be needed, but the Sudan is now, thanks to cotton, a rich country and funds should be provided on a generous scale for the work of salving the past before it is too late.

H. A. MACMICHAEL.

UGARITICA II ; Nouvelles Études relatives aux Découvertes de Ras Shamra. By

CLAUDE F. A. SCHAEFFER. Paris, Librairie orientaliste Paul Geuthner, 1949. 335 pp., 45 plates, 131 figures in text. Frs. 3,000.

In this volume Dr Schaeffer continues those special studies arising from his excavations at Ugarit which he began in Ugaritica I ; there is no account of the excavations as such, for which, pending the publication of the final report, one has the very full preliminary reports issued annually in *Syria* ; but there are discussions of individual objects for which even a final report would scarcely afford scope. In Ch. I he deals with the magnificent gold plate and gold bowl found together in 1933 which would appear to be Syrian if not actually Ugarit works of a date between 1450 and 1365 B.C. ; the description of these and the analysis of their style, showing the mixture of influences, Aegean, Egyptian, Asiatic, which produced the ' Eastern Mediterranean ' art of the 15th and 14th centuries, are admirably done, though in interpreting the central ring of a series of concentric rings as the solar disk Dr Schaeffer is more challenging than convincing. In Ch. II the excavator discusses the Early Bronze Age tombs of Ugarit which contain



heavy bronze torques, club-headed toggle-pins, rings of spirally-twisted wire and triangular dagger-blades; these are dated by him between 2100 and 1900 B.C., since the graves lie below graves of the XIIIth Dynasty period and above the latest strata of his phase *Ugarit Ancien* 3, which he puts at 2300–2100 B.C. The date agrees with the Middle Kingdom hoard of similar torques at Byblos. That hoard has long since been compared with European examples, especially from the Danubian area; but Schaeffer emphasises the force of the argument by giving us a whole series of illustrations of identical bronze groups from Ras Shamra, Hungary, Bohemia, South Germany, Switzerland and Alsace, proving beyond question that all must derive from a common source. Where that source was must still be regarded as *non-proven*. Schaeffer argues in favour of Byblos, but the hypothesis that a mixed ore giving a 'natural' bronze was available in the hills behind Byblos is, as he himself very moderately phrases it, 'difficult to verify'; it is indeed improbable. Regarding the fact that some of the Byblos bronzes are unfinished castings, it must be remembered that the torques (and possibly the pins also) served two purposes; they were personal ornaments, but they were also ingots, i.e., media of exchange cast in recognisable form (just as gold and silver bracelets or ear-rings were equally 'current money with the merchant', *Gen.* XXIV, 22 and XXIII, 16) and therefore would not need to be highly finished; Byblos, with its convenient harbour, was undoubtedly a forwarding stage for the export of bronze, but that is not necessarily the same thing as an original source of supply.

On the strength, largely, of the torques which they wear, Schaeffer in this book revises the dates of the silver statuettes of gods and of the two remarkable stelae found by him early in the excavations; originally attributed to the 13th or 12th centuries, he now assigns them to a period between 2000 and 1800 B.C. Startling as the change may seem, archaeologists are constantly obliged to alter their first views in the light of later experience, and Schaeffer is fully justified in doing so, especially as the stratification of Ras Shamra is difficult and often untrustworthy. The type of the torque-wearing god must have originated in the time of the early torque-wearers; at the same time it must be remembered that religious conservatism might preserve on statues of the gods fashions of dress long outmoded—and torques, of a lighter sort, were occasionally worn by North Syrians down to the 13th century B.C., so that a certain latitude in the dating of any one example of the divine type is permissible and even wise. The identification of the deities represented is most interesting and, I should think, conclusive.

A large part of the book is devoted to the first instalment of the *Corpus* of pottery. The excavations were quite astonishingly rich in pottery of all sorts and the publication is complicated by this *embarras de choix*. Whether the form adopted by Dr Schaeffer—which, as he says, was largely dictated by untoward circumstances—is very convenient for or understandable by the student I am not yet prepared to say; but we can certainly be grateful for having so much material put at our disposal quickly instead of having to await a final and ordered *Corpus* whose preparation would be a matter of many years.

LEONARD WOOLLEY.

VIKINGESKIPENE. By A. W. BRØGGER and HAAKON SHETELÛ. *Dreyers Forlag, Oslo 1950. Price 24 Norse Kroner.*

A book on Viking ships by two such celebrated authorities was certain to be of great importance. The present work is a survey of the whole field of Norse boat and shipbuilding, from the earliest times till the late Middle Ages and to some extent to the present day. A large section of the book deals with the early rock engravings. Many of the earliest are identified as skin-boats—some apparently of coracle form, but others

perhaps more closely resembling Eskimo vessels. The later rock engravings are discussed in detail with admirable illustrations. The authors deal also with dug-out canoes and the expanded dug-out bodies with built-up sides. The reader will find a plate of an expanded dug-out under construction in Estland.

But the most important section of the book deals with the evolution and construction of built boats of the Migration Period and the Viking Age.

There is a remarkable reconstruction of the Tune ship, which will surprise many readers. The hull is very flat in the floor with a tremendous outward 'flare' of the 'sheer-strake', the whole reminding one of a very shallow saucer. This hull-type must have been evolved by pushing the stem and stern posts of a boat of the Nydam or Sutton Hoo type nearly vertical. It is hard to see how the Tune ship could have made a satisfactory sea-boat, and it is no surprise to find that the Gokstad and Oseberg ships have been built, not perhaps with a 'tumble-home' to their upper strakes, but at least with these nearly vertical. The Gokstad ship has no thwarts on which rowers could sit. Professor Shetelig has overcome this difficulty by seating his oarsmen on packing-cases or their Viking equivalents. I am not wholly convinced that this is the correct answer for I have vivid recollections of trying to pull a boat in a seaway while sitting on a packing-case myself. It seems possible that these Norse war-galleys may have had to be 'swept' by oarsmen standing up and facing forward. It is not many years since I watched a Highland skiff being rowed in this manner. Men hunting seals from a boat in the Arctic always row facing forward.

A very interesting chapter deals with the large historical galleys of Norway, from Olaf Trygvason's *Crane* built at Nidaros in A.D. 995 to Håkon Håkonssønn's *Kristsuden* built at Bergen in A.D. 1262. It was in the *Kristsuden* that that king sailed to the Clyde on the expedition which ended at the Battle of Largs. These great galleys had never less than thirty pairs of oars and the *Kristsuden* had thirty-seven pairs. It is by no means certain that much greater galleys were not built. Cnut the Great is said to have had a vessel with sixty pairs. The constructional problems to be overcome in building these remarkable warships must have been very great, and it seems improbable that they can have been built with the same general proportions as the ships we know from the grave-mounds. If they were so built the Viking Age must have seen vessels as long as a modern steel barque of two thousand tons.

It is impossible to do full justice in a review to the mass of information made available in this most important book. Many readers, both archaeologists and yachtsmen, would welcome an English edition. If such is forthcoming, it would be helped by the addition of a few simple plans of the ships which have been excavated.

As a very minor criticism, the plates should be numbered and the lower model facing the plate of the Bayeux Tapestry is that of the Oseberg and not the Gokstad ship.

T. C. LETHBRIDGE.

WIADOMOŚCIC ARHEOLOGICZNE xvii, parts 2-3, Warszawa, 1950.

Although most trained archaeologists were massacred by the Germans, excavation has been actively pursued in Poland since the end of the war. Attention has been concentrated on post-Roman, Slav, antiquities, but the current number of the Organ of the National Museum (pp. 95-228 of the volume) is entirely devoted to a report on two seasons' excavations at the important neolithic site on Gawroniec Hill, above Cmielów in the Opatów district, and specialists' reports on animal and human bones discovered. Résumés are given in Russian and English. While we must appreciate the intention of

the latter, the execution is so bad that I have had to rely on the Russian version. The site is situated only 9 km. (about  $5\frac{1}{2}$  ms.) from the great flint mines of Krzemionki where the famous banded flint was won from Lower Astartian (Jurassic). In 1939 Krukowski published an account of the mines, which rival Grimes Graves and Spiennes in importance, but the trade in the banded flint has never been studied as assiduously as that of Grande Pressigny though perhaps equally extensive. Gawroniec Hill may represent the settlement from which the miners were recruited; for flint-workshops were exposed there. The banded flint is, however, suitable only for core-tools and the Gawroniec knappers used Turonian (Cretaceous) flint, brought from Święciechów, 30 km. (19 ms.) distant for all blade tools.

In the fraction of the settlement explored excavation laid bare 142 irregular pits, most of which are described as 'pit-dwellings'. Of course this designation would have been accepted in Britain too in the pre-Woodbury era, but an examination of the careful plans and sections published (though the signatures are not translated and scarcely legible) will convince any student of Bersu that these neolithic pits were even less suitable for habitation than English Iron Age ones; some may really have contained potters' kilns, but the hearths in others cannot have been domestic. In some pits the excavator could distinguish and record superimposed occupation layers. It is to be hoped that these observations will enable her to distinguish at least consecutive ceramic styles where-with to define phases in an occupation which must have been as long as that of Köln-Lindenthal. Treated here as a unit the pottery and remaining relics are characteristic of the Little Polish culture, a branch of my First Northern culture (Polish, *kultura puharów lejkowatych*).

Of the animal bones 1171 belonged to bovids, 383 to pigs, 184 to sheep and goats (*Capra priscus* and *aegagrus*) and only 35 to horses. From their rarity and the fact that some were scorched, it is inferred that the latter belonged to wild horses. Prof. Krysiak finds osteological evidence for the castration of bulls and infers that the bullocks were used to draw ploughs; a settlement of the same culture at Krężnica Jara has in fact yielded a model of yoked oxen. A high proportion of the cattle bones belonged to young beasts. Podkowińska explains this, not as English zoologists would, by the difficulty of carrying young animals over the winter, but by the assumption that the villagers obtained veal from distinct pastoral tribes in exchange for flint axes.

The pottery plainly belongs to the southern group of the First Northern culture, but exhibits interesting peculiarities. Only two collared flasks are mentioned and one is polypod and handled. But some of the funnel-necked beakers have 'collars' too, and in two cases the collar looks quite like the rim of a jar upon which an open dish had been set to form the funnel (pls. xxxviii, 5; xlii, 2). Besides these versions of standard First Northern forms the illustrations show five cups or jugs with so-called *anse lunate*—a type found at other sites of the Little Polish and Złota cultures, but still more often on Bohemian sites attributed to the Baden complex. The latter can be exactly matched in the 'Chalcolithic' level *minus* xvi of Mersin in Cilicia! Other ceramic forms too find parallels in the Baden culture as far south as Serbia at Vinča and Vučedol (e.g. a jar with four horned lugs) while notched circles recall Slavonia and Ljubljansko blat. Whorls and spools too are as common as on Baden sites. Finally the only grave discovered—a man, woman and female child buried together—was a niche-grave in the side of a pit—a form of tomb known on three other sites in Poland, but recently recognized at Vučedol in Syrmia in the Baden and/or Slavonian culture. On the other hand a bone spatula has analogies in Danubian I, the Körös-Starčevo cultures of the northern Balkans, and neolithic Thessaly.



## REVIEWS

To interpret these striking southern elements at Gawroniec Hill we need more knowledge of the absolute age of the settlement, and of their position in it. Remote as it is from the great Jutland-Peloponnese trade-route along which alone 'Early Bronze Age' cultures are recognizable, the site might have remained 'neolithic' far into the 2nd millennium; not so far away segmented faience beads occur in graves that used to be classed as neolithic. The settlement itself might prove to cover a long slice of a prolonged stone age in which case there should be stratigraphical evidence for changes in fashions. If so we could then ask whether the southern elements be relatively early or late. Excavation is continuing and may provide the evidence. V. GORDON CHILDE.

DATING THE PAST: AN INTRODUCTION TO GEOCHRONOLOGY. By FREDERICK E. ZEUNER. XVIII, 474 pages, 24 plates, 103 diagrams, numerous tables. 2nd edn., 1950, revised and enlarged. Methuen.

A new edition of this useful handbook is welcome if only as suggesting that the compiler has reaped some reward for his labours. We reviewed the first edition in 1946 and do not propose to do so again at length. That edition has been in constant use and we noted at the end certain diagrams and tables to which we had continually to refer. One of these (fig. 89) has been completely transformed, and improved; but it now stops at the Cambrian, whereas its predecessor went right back through the Huronian and Dakota cycles to the Manitoba cycle (about 1750 million years ago) and beyond. For this docking, space no doubt is responsible, but the omitted parts cover three quarters of geological time and without them the diagram is incomplete. In a few years we shall need a 3rd edition taking full cognisance of radiocarbon (C14) dates; the method is mentioned here, but is still too new for full inclusion of results.

We badly need a book of reference on similar lines for the later periods of prehistory and the early civilisations, but it would be better to await the results of radiocarbon dating before embarking upon it. O.G.S.C.

ANCIENT BRITAIN: South Sheet. Chessington: Ordnance Survey, 1951. 6s 9d.

This map 'shows the position and character of all the more important monuments, which had their origin earlier than A.D. 1066 and which are still visible on the ground'. The selective character will make this map more useful to the lay public than to working archaeologists. The classification by ages involves an element of convention, but no one who reads the careful, concise introduction should be misled. Any selective list of antiquities is open to criticism; in this case the compilers' inclination towards excavated and well published sites is sound. But it is difficult to justify the virtual ignoring of whole classes of local types. No single example of the numerous upland settlements of Caernarvonshire or Meirionydd appears on this sheet. The Ogam stones of Lewannick and the crosses of St. Neot are the only representatives of the Celtic memorials of the Dark Ages of Devon and Cornwall. Two errors have been noted: Rough Tor, Cornwall is not a group of Dartmoor antiquities and there is no justification for dissociating Legis Tor from the other Bronze Age antiquities of Dartmoor and listing it as neolithic. C.A.R.R.

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